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ORIGINAL ARTICLES.

SCHLEICH'S LOCAL ANÆSTHESIA IN SURGERY.

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[*Read November 13, 1895.*]

Anæsthesia in surgical operations is the greatest blessing that science has conferred upon the race. Yet from the employment of general anæsthesia many lives have been lost—not many, indeed, in comparison with the entire number anæsthetized—but still there has been a fatality from this cause which, if possible, should be averted in the future. Often, too, death has occurred in minor rather than in major operations; for example, there was recently a death in one of our hospitals from ether in an operation for hemorrhoids.

Accepting Schleich's statement that local anæsthesia may be employed successfully in 90 per cent. of operations, we at once see that the risk of fatality will be reduced in corresponding measure by substituting it for general anæsthesia.

Another fact commends local anæsthesia, the brief time required, especially in comparison with that needed for anæsthetic inhalation. In illustration: about three weeks ago one of my patients required curetting of the uterus, and nearly thirty minutes were needed for her to be brought under the influence of ether; immediately after the operation upon my patient, I employed local anæsthesia for amputation of the thumb, the operation being done by Dr. Reckefus, and the anæsthesia was accomplished in two minutes.

Still more, no symptoms can arise in the course of an operation which will render the operator in the least degree anxious in regard to his patient as he may be when general anæsthesia is employed. Further, there are no unpleasant after-effects, such as headache or vomiting.

Dr. Schleich, who was assistant to Professor Olshausen for a year, then seven years assistant to Professor Helferich, of Greifswald, and a year one of Virchow's assistants, has been for several years working at the problem of local anæsthesia, and made thousands of experiments, not exempting himself and his assistants from these trials, in order to determine the best agents, and their quantities, for producing anæsthetic ef-

fect by hypodermatic injection. He has thus been led to the employment of three solutions for infiltration anæsthesia, the vehicle for which is two parts of chloride of sodium to 1000 of water, and each contains one-fourth part of muriate of morphine; in one there are two parts of muriate of cocaine, this is called the strong solution, another has one-tenth part of cocaine, this is the weak solution, while the medium has one part; the solution most frequently employed by him is that of medium strength, in 95 per cent. of operations. Of the strong solution twenty-five grammes may be used; of the medium, 100; and of the weak, 500. The water must be sterilized; the salt, too, in which are found hyphomycetes and saprophytes, may be sterilized by heat. I observe also in his work upon the subject, published a year ago, *Schmerzlose Operationen*, he advises adding to each litre of the anæsthetic solution twenty drops of a 5 per cent. carbolic acid solution.

The syringe that he uses—I show you the size he most frequently employs—is much larger than that in common use. The needles are of varying lengths, and some are straight, others curved; these are kept ready for an operation in a 5 per cent. solution of carbolic acid.

The part to be operated on is, if necessary, first shaved, then thoroughly washed with his marble soap and water, next with alcohol, and finally with a solution of corrosive sublimate.

The next step is anæsthizing the surface to be punctured by the hypodermatic needle, and if this be the skin the anæsthesia is accompanied by a jet of ethylchloride, but if a mucous surface by the application of a solution of cocaine or of carbolic acid; the anæsthesia of the skin is done in half a minute. Immediately the hypodermatic needle is inserted through the skin, and the injection is made, it causes a white wheal about the size of a five-pfennig-piece, or of our ten-cent coin; near the circumference another puncture is made, a new injection made, and then repeated until the part to be cut has been anæsthetized, the line of incision corresponding with the several punctures. In trying these injections upon myself I found that, in order to make a wheal of the size designated, a little more than half the contents of the ordinary hypodermatic syringe was required. I also show two of Dr. Schleich's needles, one straight, the other curved; the needles vary in length. The illustration here shown is taken from Dr. Schleich's work, and you see the place of the first injection at A. From these punctures the tissues beneath, whether fasciæ or

Fig. 1.

muscle, may be anæsthetized, if the operation to be performed should require it. The periosteum itself may be infiltrated, and then the hammer and chisel may be used, or the bone may be broken, or the actual cautery applied without the patient having any unpleasant sensation. In a boy ten years old, who had an injury of the left frontal bone, causing depression, and consequent epilepsy, the injury having been received two years before, I saw Dr. Schleich chisel and remove the depressed bone, and the patient had no suffering from the operation.

The insensibility of the skin lasts for

fifteen to twenty minutes, so that if the operation is concluded within that time the stitching is painless. If a longer time elapses, a new infiltration is necessary.

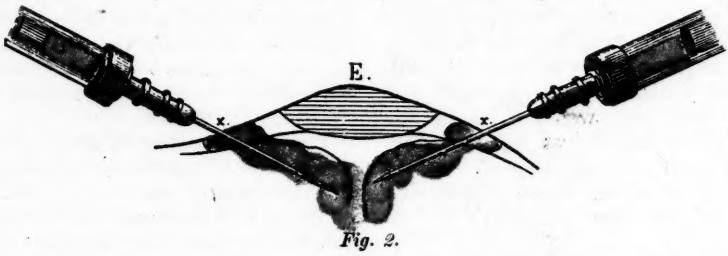

Fig. 2.

The illustration[1] now shown is of the method of anæsthetizing an inflamed part; the sound tissue is anæsthetized first, then the diseased part.

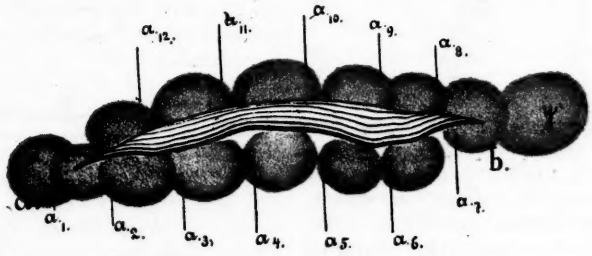

Fig. 3.

The third illustration is of the application of this method to a lacerated wound. Before cleansing, asepticizing, and stitching, the borders of the wound are infiltrated.

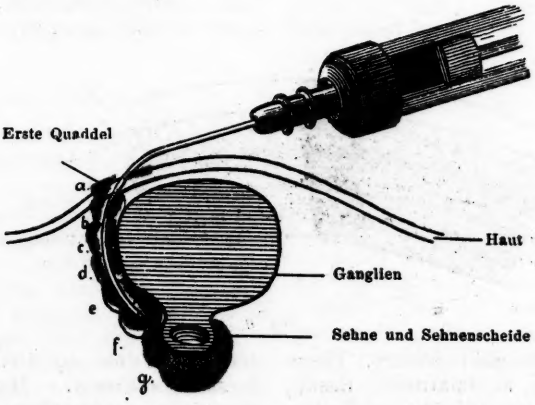

Fig. 4.

The fourth drawing shows superficial and deep infiltration for removal of a tumor. I witnessed such an operation by Dr. Schleich—in the case referred to, the growth, a lipoma, was quite the size of a man's fist. After anæsthetizing the skin for the first introduction of the needle a series of vertical injections was made from the lower part to the upper portion of the growth; it was upon the anterior chest, and partly extended over

[1] All the illustrations are from Schleich's volume.

the left shoulder; a similar series was made from side to side; a crucial incision was made following the lines of puncture, and then deep-seated injections, a curved needle being used; the removal of the growth and the stitching together of the borders of the incisions were done within fifteen minutes, and not the least pain was felt by the patient, as she said, and as her countenance and fixed position showed.

The next drawing shows anæsthetic infiltration for the removal of an

Fig. 5.

ingrowing toe-nail. This operation, too, I saw Dr. Schleich perform—splitting the nail, removing the separate halves, and curetting the diseased part, without the patient complaining of the least suffering, in fact laughing while the operation was going on; in fifteen minutes after the operation was completed and the wound dressed he walked away from the clinic.

The next illustration is of local anæsthetizing for abdominal puncture. There are seen the skin, subcutaneous tissue, muscle, præperitoneal fat, and the bluish tissues that are infiltrated; of course, the color given here and in the other illustrations is not true, but only to show more clearly the infiltration.

Dr. Schleich does not employ general, only local anæsthesia in abdominal sections; for example, for the removal of ovarian tumors. The only remaining drawing I have is the use of anæsthetic injections to make the division of the pedicle painless — anæsthesia for the abdominal incision is a very simple matter.

Four times Schleich has performed by his method of local anæsthesia that which he calls, as most others, ventrifixation; it ought to be known as ventrifixation, for there is no *ventro* nor is there *vagino* in Latin, so that both vaginofixation and ventrofixation ought to be banished from the language of educated gentlemen in the profession; indeed, one is tempted to use in reference to each a similar remark to that made in regard to Madame de Staël by Talleyrand, "She is simply intolerable." So each of these words is intolerable.

Fig. 7.

Returning, not only are these examples of abdominal section given, but also cholecystotomies, herniotomies, gastrostomies, and exploratory incisions have been done by Dr. Schleich, using local anæsthesia. Moreover, opening abscesses, extracting teeth, ligating hemorrhoids, operating for prolapse of the bowel, for phimosis and paraphimosis operation upon the vagina and the uterus, amputation of the breast, removal of

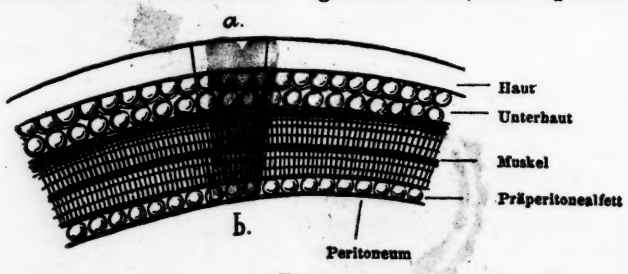

Fig. 6.

vascular tumors, curetting or cauterizing lupus, for example ; partial resection of various bones, as the clavicle, tibia, sternum, ulna, humerus, or femur—all these and many more operations have been done by Schleich solely with local anæsthesia.

Dr. Schleich impressed me as a man of great ability and of unwearying work. He may be too enthusiastic, as frequently those who pursue a new course are liable to be, but I believe from what I have seen of his work and read of his writing that the day is not distant when the majority of surgical operations will be done employiug local rather than general anæsthesia.

Probably I have not mentioned one-half of the operations Dr. Schleich has performed, using his infiltration method; but, in conclusion, will only ask you to observe the method and its effect illustrated in my own person.

[After washing with an antiseptic solution a portion of his forearm, previously shaved, Dr. Parvin had a small part anæsthetized by a jet of ethyl-chlorid, and through this, with the hypodermatic needle of Schleich's syringe, had four injections of the solution generally employed by Schleich (made by Dr. Reckefus, Dr. Parvin's assistant) ; immediately after an incision was made through anæsthetized part, following the line of punctures; after the blood was washed away the edges of the wound were stitched together with silk : there was not the slightest pain felt during the entire experiment nor subsequently.[1]]

DISCUSSION.

Dr. W. W. Keen : Through the kindness of Dr. Freeman, who had brought some of Dr. Schleich's tubes and a syringe on his return from Europe, I have had the opportunity of recently doing three operations by this method. The material for the solution is contained in sealed glass tubes. Each of these which I show you contains one and a half grains of cocaine, one-third of a grain of morphine, and three grains of common salt. In use the tube is broken and the contents dissolved in 100 c.cm. of sterilized water. This is the medium solution. Schleich lays great stress upon the force with which the injections are made. He seems to believe that it is not only the cocaine, morphine, and sodium chloride, but the quantity of the water, which locally distends the tissues and makes pressure and traction upon the nerves.

My first case was that of a young lady who had a small horny tumor on the dorsum of her foot. It was only necessary to make a slight incision. I made a single injection in the surrounding tissues and made the incision without causing the slightest pain. The second case was an elderly woman, upon whom I performed an inguinal colostomy for cancer of the rectum. Her condition was such that I was not willing to use either ether or chloroform, and, as a last resort, I adopted Schleich's method. I did a Maydl operation, the whole operation taking about twenty minutes. The patient experienced no pain until I accidentally carried my incision about one-quarter of an inch beyond the injected area. I was not sorry to have this occur, as it showed the marked contrast to the portion which had been treated by the injection, where the incision was painless. I also observed the complete insensibility of the healthy peritoneum, for I freely touched the peritoneum, handled the omentum, sought for and drew out the colon, and introduced a glass bar under the loop of the colon, without any evidence of pain being elicited. Many of the members present will recall the discussion in the columns of the *British Medical Journal* a year or more ago, with regard to the insensibility of the peritoneum, in which contrary views were expressed. My own opinion, based on this and several prior cases, is that the healthy peritoneum is completely insensible.

To-day, in my clinic at the Jefferson Hospital, I had to do a radical cure for hernia in a young man twenty-two years of age. I did the Bassini operation, and employed the infiltration anæsthesia with complete success. After making the incision through the skin I dissected out the cord and had it held out of the way, sutured the various muscular layers, and introduced the sutures through the skin about twenty minutes after the injections had been employed.

1 I desire to add that no unpleasant consequences followed the operation.

The patient was talking during the operation, and at the latter part asked for a pillow so that he might look down and see the closure of the wound.

With regard to Schleich's method, I can only say that I was so pleased with it in these few cases that I shall continue to make further trial of it in suitable cases. But I do not think that it will supersede general anæsthesia for most purposes, for no kind of local anæsthesia can ever do this. Dr. Parvin alluded to operations upon the sternum as being suitable for this method. Now, it happens that in my service at the hospital I will be called upon next week to remove a sarcoma involving the sternum. I would not be willing to resect the sternum by a local anæsthetic instead of a general anæsthesia, even if I were sure it would make the operation painless, on account of the danger of hemorrhage, or of other surgical accident occurring in which it would be an advantage to have the patient completely unconscious. I think that it will supersede general anæsthesia in most, if not all, minor cases of surgery, but not in most major cases. I have not had opportunity of using it in an amputation of either arm or breast; but hope to test it in such cases before long. From my brief experience, I think that this method will be very valuable in a limited field.

Dr. John Ashhurst, Jr.: I am sure that we have all been very much interested in this communication and are much indebted to Dr. Parvin for bringing the subject before us and before the profession of our city. He did not, I think, speak in his paper of the *modus operandi* of this plan of treatment, nor tell us how it produces such marked effects. While there is a small quantity of cocaine injected, and also a small quantity of morphine, yet the amounts are so small that we can hardly suppose that they alone can produce the result. When we remember that we often use a 5 per cent. (1-20) solution of cocaine in the ordinary mode of employing it, it seems improbable that a solution of 1-10,000 or even 1-1000, should induce anæsthesia. I think, and this I believe is Dr. Schleich's own view, that the effect is largely due to the compression of the small nerve-filaments of the part which results from the injections, and it is interesting in this connection to refer to some well-known clinical facts with which we have long been familiar. It is always of interest to me to find old and isolated clinical observations come out and explain or be explained by later scientific researches. We have long been aware of the fact that in patients with œdema of the legs numerous punctures may be made for drainage without causing pain. We see the same thing in cases of ascites, where the operation of tapping is attended with much less pain than it would be in a flaccid abdomen, the explanation being that the excessive distention, by compression of the superficial nerves, renders the part insensitive. We are all familiar with the fact that pressure upon a nerve will produce anæsthesia, and that even general anæsthesia may be caused by pressure on the pneumogastrics in the neck.

When we consider the history of local anæsthesia and the many attempts which have been made to supplant ether and chloroform in the past, we must, I think, hesitate, with Dr. Keen, to believe that the method now under discussion will do what others have failed to accomplish. It is interesting to recall some of the earlier methods which have been tried for a time and have then been laid aside. First, there was anæsthesia by cold, proposed by Dr. Arnott. This was employed in many cases, and I have seen a breast painlessly removed after first freezing the part, by the late Henry H. Smith. While this plan was measurably successful, at the same time we do not hear of it at present; it has fallen into desuetude. Very few of the younger surgeons have ever seen a major operation done under local anæsthesia produced by the application of ice and salt. Then came the ether or rhigolene spray for producing local freedom from pain. It was not, however, entirely free from risk, for in an operation done at the Pennsylvania Hospital for the radical cure of hydrocele by excision of the tunica vaginalis, rhigolene being used to freeze the part, there was sloughing of the scrotum as a result. Then we had the injection of 5 per cent. solutions of cocaine, the dangers of which Schleich himself has pointed out. So that all these methods of

local anæsthesia have not been found to fulfil the anticipations of their introducers.

Then, in another direction, was the ingenious suggestion of that exceedingly able physician and physiologist, Dr. B. W. Richardson, of London, that incisions should be made by a blade connected with a rapidly revolving wheel, so that the wound should be made so quickly that the patient would not have time to feel it; but even this plan has not been generally adopted.

Therefore, I am inclined to agree with Dr. Keen in the feeling that while this is probably a better mode of producing local anæsthesia than its predecessors, yet it will not supplant general anæsthesia by ether and chloroform. Nitrous oxide is a valuable anæsthetic, producing its effect very quickly and recovery being equally rapid, and I have seen, under its use, a painless amputation of the leg done at the Pennsylvania Hospital by Dr. T. G. Morton; but no one uses nitrous oxide for amputations now. We must remember that the relief of pain, though the most important object, is not the sole object sought to be obtained by general anæsthesia. We all know that operations may sometimes be done without pain, even without using an anæsthetic. There is the instance, recorded by Dr. Purple, of the man with paraplegia following spinal injury, who took a fancy to have his legs amputated because they were in his way and sat up and looked on while the surgeons performed the operations. Generally, however, patients would not like to see a leg taken off, or a knee-joint turned out, even if it did not hurt them. Unconsciousness is desirable for the sake of the patient's feelings, mental and moral as well as physical. Thus there are certain accidents which are liable to occur during an operation, when it is better to have the patient unconscious. For instance, when there is a large bleeding vessel to be secured. What could be more frightful for a patient than to preserve his consciousness when his life-blood was ebbing away? Then there is the advantage to the surgeon of being able to employ many manipulations and to meet emergencies arising in the course of an operation, which he could not do unless he had full control of the patient. Then there are feelings of delicacy on the part of the patient to be considered; in many operations there is more or less exposure of the person necessary, or irksome and disagreeable positions are required; with general anæsthesia the patient's sense of modesty is not offended, which would not be the case with local anæsthesia, no matter how perfect, so that here again unconsciousness is an advantage. Therefore, with all deference to Dr. Parvin, I do not think that Dr. Schleich's method will be adopted by surgeons in anything like the proportion of cases which he has indicated. At the same time, since the use of cocaine in the ordinary manner is attended by risk and requires much caution, the infiltration method of Schleich will no doubt prove a valuable substitute in cases suitable for local anæsthesia. Therefore I will end as I began, by expressing the obligation which we must all feel to Dr. Parvin for bringing this subject before us and for giving us his interesting demonstration of the method, and for not "in corpore vili," but "in corpore nobilissimo."

Dr. Thomas S. K. Morton: I think that this method should have a fair trial, and I think that we are all anxious to give it a trial. The method of cocaine anæsthesia, which this is intended to supplant, is a dangerous one. It has not proved a success except in the hands of the laryngologists and the ophthalmologists; to them it is a wonderful boon, but in general surgery it has failed, and it has failed because we cannot give enough of the drug to cause anæsthesia without producing dangerous effects. We know that even from moderate quantities of cocaine death has resulted. I have seen alarming results from what I regard as very moderate doses. I myself never inject more than half a grain, and I always insist upon the patient lying down for half an hour after the operation. But even half a grain is a very large dose for certain persons, and, unfortunately, these very susceptible persons cannot be picked out in advance.

I think that this fluid of Schleich's has some remarkable effect upon the nerve-fibres, an effect which is not well understood. The quantity which can be used is almost unlimited. As Dr. Keen has said, even ordinary salt solution injected under the skin will produce

some anæsthetic effect, as first pointed out by Liebreich. Injections of pure water are also anæsthetic in their effect. The addition of a small amount of anodyne drugs probably has some value in increasing this effect. But I cannot believe that the small amounts of drugs in this solution have the slightest effect in producing this complete local anæsthesia in the exhibition just given, because the effect was instantaneous. It requires time for cocaine and morphine to act; not merely seconds, but minutes.

I believe that this method is applicable to a certain limited field, and I agree with Drs. Keen and Ashhurst that it will not take the place of general anæsthesia in surgery. It is true that we have not yet discovered an ideal anæsthetic, but I do not think that these solutions of Schleich's will supplant ether for major operations, such as removal of a breast. It may answer in minor operations, but in major operations it is better for the patient to be unconscious during the operation. I have seen patients operated upon by local anæsthesia who were profoundly impressed and in a condition of shock owing to the inhibitory action of fright upon the circulation.

Another point to be remembered is that most of the experiments with this agent have been made upon Germans. Now, Germans do not feel pain so acutely as Americans, nor do the English, as a rule. I believe that these injections can be used on this account more freely and more successfully in Germany than in America.

Dr. W. D. Robinson: While on the subject of the dangers of cocaine when used hypodermically, I would mention the possibility of hemorrhage coming on some time after an operation. Arterioles held in tonic contraction during the time of the action of the drug will, when severed, show no bleeding, but may, in my experience, after one-half to one hour's time, dilate and bleed freely. In a recent case of removal of a cyst of the breast, in which I had used a very weak solution of cocaine as the anæsthetic, I was called back to my patient after an hour and a half to find that a small artery, which did not bleed at the time of the operation, had started to flow profusely and had caused the loss of at least a pint of blood. In the operation no torsion or ligatures of vessels were required. I have had a similar result in the removal of a wen from the scalp.

Dr. C. A. Veasy: At the last meeting of the American Medical Association, at Baltimore, Dr. Würdeman, of Milwaukee, Secretary of the Section on Ophthalmology, brought the subject before the Section, and, after making some very limited remarks, demonstrated it before the members. The patient was one that was brought in by one of the physicians of Baltimore, with two tumors on his forehead. The injections were made as described here to-night, and the tumors removed. The patient made some objection to the pain of the injections when they were being made, showing that he felt pain; but made no demonstration whatever during the subsequent operation of removal of the tumors. I obtained the formulas from Dr. Würdeman, who has the honor of having introduced this method of local anæsthesia into this country. I have used it twice in the removal of small tumors from the eyelids. The first patient was of a very emotional nature and one from whom I expected manifestations of pain, if there had been any pain, but there was none. Dr. Würdeman told me that he had followed up the experiments of Dr. Schleich, commencing with injections of distilled water, which caused considerable pain, but produced anæsthesia; while injections of the normal saline solution produced no anæsthesia and no pain. The injection of a $\frac{1}{10}$ per cent. solution of sodium chloride, however, produced no pain and caused anæsthesia, and this is the reason for all of the formulas containing this strength of saline solution.

In superficial operations I do not think it is always necessary to use chloride of ethyl to produce slight anæsthesia before injecting the solution, as there is very little discomfort experienced in receiving the injection, provided the skin be tightly held between the fingers while it is being made.

Dr. Charles P. Noble: One of the points raised by Dr. Keen with reference to the applications of local anæsthesia to abdominal surgery was whether or not the peritoneal surface is sensitive to pain. In connection with this I might state that some years ago, when drainage-tubes were used more than they are

at present, and were often used when the peritoneum was healthy, I invariably found that the patient complained of pain when the peritoneum was touched in cleaning the tube. It seems to me that a word should be said about local anæsthesia in abdominal surgery. If, during the progress of the operation, the patient should struggle, it would displace the viscera and force the bowels out of the wound, which would produce an embarrassing as well as a dangerous situation. For such operations general anæsthesia is much better.

DR. MATTHEW WOODS: While discussing local anæsthesia, I might refer to my experience with cocaine in removing inverted toe-nails. I use the ordinary triturate of muriate of cocaine to make an extemporaneous solution, which I inject into the toe around and under the nail. In a case recently the patient looked on and had no pain while I split the nail and pulled it out. I have also cauterized the matrix with lunar caustic or caustic potash in these cases. I think that it is not only the cocaine but the water that produces the effect, for I have found that an eighth of a grain in a drachm of water acted better than a quarter-grain in half the quantity; possibly the weaker solution is more quickly absorbed. There is one serious objection to cocaine, and that is that toxic symptoms are sometimes produced. I had two patients who nearly died, though both of them recovered; but both of them had valvular insufficiency from old endocarditis. I have used cocaine as a local anæsthesia for four or five years without serious accident, but there is a dentist in my neighborhood who extracts teeth under cocaine, and during the last year three patients have stumbled into my office suffering from nervous and circulatory symptoms after the extraction of teeth, but they also recovered.

DR. W. F. LITCH: I have had occasion during the last few months to look somewhat extensively into the literature of cocaine, and I find that the safety of the agent appears to depend largely upon the percentage of the solution. Dr. Edmund Falk, of Berlin, published, in 1890, a paper in the *Therapeutische Monatshefte*, in which he reports 176 cases presenting serious symptoms, ten of which were followed by a fatal result. On analyzing his tables, which are very carefully made, it is evident that in the fatal cases excessive percentages had been employed. Only toxic symptoms occurred when the weaker percentages were used. The safety of Schleich's method consists in the low percentage of cocaine in his solutions, as well as the small amounts of cocaine entering the system. A low percentage solution will give a safer result than a higher percentage solution, even though the absolute amount of the drug injected should be the same.

With regard to inverted toenail, I saw recently the report made in 1888 by a physician in the South who had operated under local anæsthesia with cocaine, of which he injected half a grain. Severe toxic symptoms occurred, and he found upon removing the dressings, the next day, that the patient's toe had sloughed. Sloughing of the gums is also an accident which sometimes occurs when strong solutions are injected by dentists.

DR. PARVIN said: In the discussion it has been suggested that ether-spray will produce local anæsthesia, but this anæsthetic influence is only superficial, has no effect upon deeper tissues, and is very brief. It is proposed that Schleich's method must be restricted to minor operations, and that major operations will still require general anæsthesia. The answer to this is that Schleich has applied it to many most important operations. My belief is strong that some in this room will see the day when more than 50 per cent. of all operative surgery will be done under the infiltration anæsthesia of Schleich. If those who are skeptical as to its great value were to spend, as I did, some weeks witnessing his work, my belief is that they would become as enthusiastic as I am.

Measles Microbes.

Dr. Joseph Czajkowski, after four years of investigation, announces the discovery of a microbe which may be the cause of measles. Two other investigators have found the same microbe in the blood of measles patients. One of its most interesting peculiarities is, that while rabbits suffer no inconvenience when inoculated with it, it appears to be sure death to mice.

HIP-JOINT DISEASE AND ITS MODERN TREATMENT.

S. L. McCURDY, M.D., PITTSBURG, PA.

Hip-joint disease, technically known as morbus coxarius, coxalgia, coxo-tuberculosis, etc., is a tubercular disease of the hip. The primary focus is generally found in the head of the femur, although it may be found in the neck, greater trochanter, acetabulum, ligamentum teres, or capsular ligament. It may also be, and is in about 7 per cent. of cases, primarily, a synovitis. In children, osteitis is more frequent, and, in adults, synovitis is more frequent, as a primary affection. It is generally single, although a secondary focus may appear on the opposite side, and Ridlon has reported fourteen cases of double hip disease. It is also a fact that about two-thirds of cases are in the left hip. Age, sex and heredity are important etiological factors, and have much to do with the production of the disease.

It is distinctively a disease of childhood, the majority of cases occurring between the ages of two and thirteen, although cases of true hip disease have developed in utero, and also appeared in patients over sixty years of age. Eighty-four per cent. of cases occur before the age of fourteen years. Primary hip disease, however, is not common after twenty-five years. Relapses occur more frequently from thirty to forty years. Males are more frequently the victims of hip disease, because they are more active and more liable to injuries. Barwell says that phimosis is present in 95 per cent. of cases, and the admission that genital irritation may produce reflex symptoms resembling hip disease would also account for the greater number of males than females.

Heredity plays a most important part in the production of the disease. Indeed, I may say that it is rare that a hereditary history cannot be traced. Gibney, in two hundred and sixty-five cases, found but one that did not show a history of tuberculosis. Senn has called attention to the fact that the more severe tubercular diseases affecting bones are the result of slight injuries. In other words, it would be better for one of these tubercular children to receive a fracture than a slight contusion, although slight injuries are harmless in children with health at a high ebb.

The symptoms, as they generally appear, are as follows: Night cries in the early part of the night, which are only heard during sleep; limp in the morning, which passes off, in the early stage, as exercise is taken; fretfulness and slight constitutional deterioration, all of which increases as the disease advances; fever, which may generally be found during the evening, is seldom 100° F., and, in the majority of cases, only lasts from one to three hours.

Stiffness of the joint is always present, as one of the earlier as well as late symptoms, and is due to muscular spasm. A joint in tuberculosis is more or less sensitive. The vibratory impulses imparted to it increase the pain, and the rigidity of the muscles is an effort on the part of nature to afford protection. The reflex muscular spasm of all muscles which have to do with the movements of the affected joint soon induces atrophy, and this symptom may be found as early as one week after the onset of the disease, and even before many of the other symptoms have been observed. This can be detected by circumferential measurement of the thighs, and can be seen by the disappearance of the gluteal fold and dimple and flattening of the buttock. In females, the vulva is lower on the affected side than on the other side. A tilting of the pelvis is observed quite early, due to a fixed condition of the thigh upon the pelvis, and is known as flexion. Associated with this may be found in the early stage, or stage of apparent lengthening, abduction, which is succeeded by adduction later on, or when the product of tuberculosis escapes from the joint bag, or from the bone, into the surrounding tissue. When the foot is in abduction the toe is generally everted,

and when it is in adduction it is inverted. Glandular enlargement may be found quite early, and is a forerunner of abscess formation. A doughty or brawny feel about the joint is imparted to the touch. Pain, which in rare cases is never found, is, in the majority of cases, referred to the knee, and it means that the primary focus is in the femur. In cases of suspected hip disease, if the pain is in the joint or sacrum, there is more likely to be synovitis or pelvic disease.

In making an examination the patient should be stripped and inspection be made while he is standing and walking. Lay the patient down on a table and freely move the well leg, following this by gentle manipulation of the suspected extremity. Never use an anæsthetic as a method of making a diagnosis, for severe manipulation of a tubercular joint does great damage, and, to my notion, is as heroic as an exploratory incision in suspected abdominal disease, and does far more damage. The so-called "grating" looked for is rarely, if ever, present. Thomas' test is quite diagnostic. In moving about, in the sitting or reclining position, the patient carries the diseased member upon the well one, and, when lying still, natural traction is practiced by the patient pressing the toes of the well foot upon the dorsum of the foot of the affected side.

The differential diagnosis must be made from lumbar Pott's disease, synovitis proper of hip, infantile spinal paralysis, sacro-iliac disease, congenital dislocation of the hip, disease of the knee, and hysterical affections. Abdominal abscesses, and diseases which press upon the psoas or iliac muscles, may cause limited motion of the joint and confuse one.

At this point I desire to call your attention to the difference between stiffness or rigidity of a joint and limited motion. The former term means restricted motion in all directions, and in the latter motion may be limited in but one direction, the joint being freely movable in all other directions. Hip-joint disease is self-limited, and spontaneous recovery with bone deformity is generally the result. The earlier the patient is put upon treatment the more rapid the course is run, and the less the deformity, and vice versa. It is more fatal after puberty. About 50 per cent. of cases have abscesses; 34 per cent. of suppurating cases die; about 7 per cent. of non-suppurating cases succumb to the disease, the average mortality being about 16 per cent.

Causes of death may be enumerated as follows: Pulmonary tuberculosis, 8 per cent.; meningitis, 16 per cent.; kidney complication, 20 per cent.; operations, 10 per cent.; exhaustion from suppuration, pyæmia, septicæmia, etc., 14 per cent. Under good treatment, cases are under the surgeon's care from one to four years; with no treatment they run their course in from three to ten years. The average shortening after excision is from 1 to 3 inches; after mechanical treatment, $\frac{1}{4}$ to $1\frac{3}{4}$; and with no treatment, from 1 to 5 inches. As a temporary or transient deformity, we may have abduction, adduction, flexion, eversion, and lordosis, due to muscular spasm. The deformity may be permanent, due to true or false ankylosis, dislocation, true or false, and resultant shortening, real or apparent.

Treatment may be divided into hygienic, medical, mechanical, and operative. Under the first head, pure air is recommended, generous diet, sufficient sleep, including an afternoon nap or rest.

Tonic and specific medication are important and should be given in the majority of cases.

Mechanical treatment not only prevents deformity and reduces the length of time these cases are under observation, but it also reduces the mortality rate. It is claimed, and very correctly too, that vigorous mechanical treatment, carried out on correct lines, prevents abscess formation. Statistics show that with abscess the death rate is 34 per cent. and without, 7 per cent. When these facts are considered, proper mechanical treatment becomes of the greatest importance.

Mechanical treatment may be considered under the following sub-divisions: Recumbency, fixation, or the English method, and traction, or the American method, and the combination of the American and English, or fixation and traction.

The prime object in treatment is to relieve the symptoms and prevent deformity.

As these patients place the toes of their well foot upon the dorsum of the foot of the affected side, to relieve pain by traction, they give a forcible hint that traction, to overcome the spasmodic contraction of the muscles about the joint, and thus relieve interarticular pressure, is the first principle of mechanical treatment.

Next to traction, by way of suggestions made by the patient, they demand protection. In recumbency the principles of treatment, viz., traction, protection, and immobilization, are carried out by the use of the wire cuirass of Bauer, the stretcher bed, plaster of Paris, spica, the weight and pulley extension as first described by Gurdon Buck. During the early stage, or during more acute inflammatory changes, the bed treatment is preferable in that it offers complete rest to the hypersensitive joint. Night cries and other evidences of constitutional degeneration are magnified without treatment, or when proper treatment is not applied, and improve under treatment. In some cases, when mechanical treatment is properly applied, the various stages of the disease come and go in comparative comfort, and recovery takes place with little or no shortening and practically a perfect joint.

As soon as muscular spasm yields to treatment and the patient becomes more comfortable ambulatory treatment must take the place of the bed treatment. While confinement in bed, or the rest cure, if you please, is beneficial, there is a time when the vital forces begin to degenerate, and exercise must be given the patient in order that the molecular disintegration which is going on in the hip may be succeeded by a progressive metamorphosis rather than degeneration.

Except in very acute cases, where pain and constitutional disturbances are excessive, the mechanical treatment, as accepted by the members of the American Orthopædic Association, is the American method of traction, and upon this one principle all are agreed, with possibly one or two exceptions. No one objects to fixation in the early stage, but some say it is unnecessary subsequent to the acute stage, while others adopt the ambulatory treatment from the beginning, thus teaching that these patients should never be confined to bed. Fixation is best carried out by the use of the Thomas hip splint, which is more easily applied than plaster of Paris, more economical than the leather splint of Vance, the metal splint of Willard, or the Blanchard brace. Traction alone is best carried out by the Polyclinic splint, and its numerous predecessors, known as the Davis, the Sayre, the Taylor, the Andrews and the Judson splints.

Treatment of to-day, as would then appear, is fixation and traction. Up to the time of the introduction of the Phelps no brace combined these two indications in an ambulatory splint. Since that time Bradford and Lovett have so modified the Thomas as to make it a walking crutch and also afford traction. The Phelps affords fixation and traction with protection, but these are principles in the brace which cannot be altered. In order that fixation can be used with traction when, and as long as desired, and discarded at will, without in any way interfering with the traction, the splint shown was devised. It is a Polyclinic without the posterior bar, and a Thomas-Polyclinic with it. It is adjusted with two screws and can be removed when desired. It is also a walking crutch. About 50 per cent. of cases do not use crutches. It is advisable, however, to use crutches in all cases, and, if the patient learns to walk without them and at the same time sufficient traction is maintained to relieve pain and prevent shortening, he should be allowed to do so.

The management of the abscess of hip-joint disease is one that is still under discussion. The general surgeon excises all abscesses, and has as his first principle of treatment the removal of a tubercular focus no matter where found. On the other hand, the mechanical surgeon, or othopede, practices conservatism, never opens an abscess, and does not even aspirate. Between these two extremes the orthopædic surgeon's aim is to adopt a course of treatment which allows him to excise and curette when necessary, and to leave alone when the cases are running a harmless course.

The injection of abscesses, after aspiration, with a 10 per cent. solution of iodoform and glycerin, as advised by

Senn, is good treatment. It is claimed for this treatment that it not only relieves pain, but the iodoform destroys the bacilli.

What may be given as guides for excision of these abscesses are, when they enlarge rapidly, are associated with great pain, are burrowing and producing pressure upon other important structures, or are attended with marked sepsis.

When an abscess appears upon the surface as a tumefaction merely, with no other evidence that it is an abscess than it is associated with hip-joint disease, to excise, and subject the patient to further danger of pyogenic infection, would be anything but good treatment.

It is not an easy matter to say just when to discard the brace in the treatment of hip disease. Schaffer has written extensively upon this subject. No rules can be given, but the surgeon must be guided by the patient's condition and the presence or absence of symptoms.

COMMUNICATIONS.

ANÆSTHESIA.*

J. G. BLOUNT, M.D., WASHINGTON, N. C.

In this grand march of the surgical mind towards the ideal in all things pertaining to that branch, it behooves us all to look well to each feature that will contribute to the attainment of that ideal.

Seeing the advances made in asepsis and antisepsis and the incursions and invasions made with impunity upon the viscera that have heretofore been regarded as sacred and inviolable, my attention is directed to one of the elements that sometimes thwarts our object. While as yet no ideal has been attained to produce that "*profunda sopore*" spoken of by John Calvin in his Commentary on Genesis, yet we are here to-day to discuss the relative merits of the different agents and some of the means available to contribute to the safety in the administration of those agents. Before entering upon that discussion it is fitting and right that we review, briefly, the history of anæsthesia and its growth up to the present. To-day we are familiar with the origin of the term because of the discussions that have occurred recently in the medical journals. About the middle of the nineteenth century Morton, the Boston dentist, while in conversation with the lamented Holmes, was at a loss for a word to express the effect produced by the inhalation of the vapors of the newly found substances. To the quick and fertile mind of Holmes the word *æsthetic* occurred at once as being sensitive, and *anæsthetic*, as being insensitive, easily followed. Letheon was first suggested as the most fitting name for the youngster that was precocious enough to demand immediate baptism, but Morton chose rather etherization and anæsthesia, and these have been held up to the present hour.

In all ages since the origin of man, even before the creation of woman and man's downfall, we are taught the first principle of humanity—that of gentleness and relief of suffering. We find the great Creator first setting the example by causing a deep sleep to fall upon Adam, and it was in this lethargic condition that the first surgical operation was performed—that of the removal of the rib—and "he took one of his ribs and closed up the flesh thereof."

Seven hundred years B. C. we find this same divine attribute emanating from the heart of man and the "wine of the condemned" is spoken of by the prophet Amos. Rather than torment condemned criminals this wine, Indian

*Read before the North Carolina Medical Society, 1895.

hemp it may have been, was given them, and it was in this semi-benumbed condition that the confessions were extracted from them.

So, also, is it believed by all commentators that our Saviour on the Cross was offered this same wine, and so this divine attribute that was manifested by the All-wise one at his first infliction of physical suffering, has been manifested by that noblest of His works, man, and we find our beloved profession to-day struggling, striving, diving into the depths of half-forgotten lore and spending miserable lives in the hidden recesses of musty laboratories still in pursuit of a more ideal method of affording this relief.

As early as the third century, more than fifteen hundred years ago, it is recorded of Hoa-tho, an ancient Chinese practitioner, that he administered hemp for the production of anæsthesia, and in his description of its effects he states that when the drug is swallowed "the mind is immediately filled by a delicious succession of pleasant ideas which banish all cares and produce a perfect indifference to pain," and that "after a certain number of days the patient finds himself re-established without having experienced the slightest pain during the operation."

Herodotus makes mention of burning hemp, and that the Massagitæ and Scythians inhale the burning vapors and by them become intoxicated as the Greeks do by wine. So are we all familiar with the Nepenthe of Homer and the "Jove-descended Helen" so drugged the wine as to "free men from grief and from anger, and cause oblivion of all ills."

And now, about the thirteenth century, Theodoric, in his Chirurgial, before entering the priesthood, gave most minutely the preparation of the "Spongia Somnifera," which foreshadowed more closely than anything before our present method of producing anæsthesia. A sponge was dipped into an aqueous extract of opium, hyoscyamus, mulberry, hemlock, mondragora, wood-ivy seeds of dock and lettuce and water hemlock, and this placed in a brazen vessel and boiled away in it until the sponge consumed it all. Whenever needed, this sponge was placed in hot water for an hour and applied to the nostril of the patient to be anæsthetized. If there was difficulty in arousing the patient, another sponge dipped in vinegar or the juice of the root of foenugreek was applied to his nostrils. As late as 1534 we find this "Spongia Somnifera" still in use and Parè speaks of it as "used formerly" by operators.

And was not the immortal Shakespeare conversant with all these methods, for we know well that the Friar administered to Juliet a potion that "each part deprived of supple government did stiff, and stark, and cold, appear like death."

In 1784 we find Dr. Wilson Moore, of London, attempting to diminish the pain of surgical operations by the application of compression to the principal nerves supplying the part. Malgaigne, the French surgeon, experimented along this same line, but its application was as painful as the operation and soon fell into disrepute. Later, in 1819, Mr. James Wardsup resorted to copious venesection to diminish the sensibility in painful operations, and thought it most suited to persons of a nervous, irritable temperament, and always carried it to the extent of syncope.

Even up to the time of Samuel Gross we find him using complete opium narcosis as a means of producing anæsthesia, and where the patient was sufficiently strong he combined with it a little tartar emetic that the patient might be all the more thoroughly relaxed and insensible. These shared the fate of their predecessors upon the introduction of more modern anæsthesia.

Having reviewed, briefly, the ancient and mediæval history of anæthesia, and shown that it was first accomplished in the olden times by the divine command, and later by the inhalation of vapors driven off from the "spongia somnifera," drinking solutions of these same extracts, the drinking of narcotic potions, copious venesection, mechanical means and the like, we come down to the substances used to-day and the beginning of their life.

Eighteen hundred, the closing year of the eighteenth century, marked the beginning of the investigation along the line of modern anæsthesia. It was in this year that Sir Humphrey Davy, one of England's most celebrated chemists, while experimenting with nitrous oxide

gas, became convinced of its anæsthetic properties. His deductions were early looked upon as chimerical, and his discovery passed into history without practical use being made of it. Dr. Wells, a dentist of Hartford, revived this, and, after due experimentation, on the 11th December, 1844, the first anæsthetic operation was performed, that of extraction of teeth, with Dr. Wells, the discoverer, as the patient. After this many teeth were extracted in rapid succession.

Enraptured, enthusiastic and confident over the success of his discovery, he made known its virtues to Drs. Heywood and Warren, of the Massachusetts General Hospital, and they were to extract teeth before their student body, with members of the class as patients. Unfortunately, however, the bag was removed too soon and the operations were painful. Wells was hissed from the amphitheatre, and, with his keenly sensitive nature wounded to the core, he left Boston to give up, for a time, his profession with vexation and disgust. This inhalant again sunk into obscurity and was only revived in 1863.

In 1796 ether was first used in England as an inhalant in certain lung diseases, and in 1805 was used in Boston for the same purpose. Notwithstanding these early uses of ether, we are not concerned with it for its anæsthetic effects until March 30, 1842, when Dr. Crawford W. Long, of Athens, Georgia, made use of it for allaying pain in surgery, and observed that persons who had hurt themselves while under its influence felt no pain. Unfortunately, however, it remained for Dr. William T. G. Morton, on the 30th of September, 1846, in Boston, to perform the first case of an anæsthetic operation under sulphuric ether, by means of which the surgeon's knife was made kind and surgery ever afterwards robbed of its terrors. Of all the substances yet discovered for prolonged anæsthesia the safest by far is sulphuric ether.

It affects first the respiratory centre, and before the citadel of the vital fluid is devastated we have a warning of the approach of the death-dealing seer.

In the production of its anæsthetic effects we notice three stages, which are as follows:

1. Exhilaration and excitement.
2. Narcosis.
3. Sensibilities and reflexes abolished.

There is noticed from its administration a hacking cough and feeling of strangulation from local irritation. After its absorption successively and progressively are the nervous functions affected. Cerebration and voluntary motion first yield to the subtle invader and subsequently sensibility and consciousness are no longer able to withstand its influence and the patient lies in a state of complete narcosis. Before this stage of complete narcosis there is a period of excitement, and it is at this time that the character of the individual is developed. The banker draws his checks and figures interest, the doctor vends his pills, and various individuals reveal their hidden secrets.

Before complete insensibility there is a momentary anæsthesia called primary, and this is sometimes utilized for minor operations, though most authorities contend that operations during the primary anæsthesia shock more violently than where complete narcosis is induced. Ether is irritating to the air-passages and at the outset there should be allowed some admixture of atmospheric air so as not to frighten the patient, though later on it should be pushed to purity to prevent vomiting. Owing to this irritation of the bronchial mucous membrane pulmonary congestion and œdema may supervene. and hence it is best for a time to avoid exposure and to apply as much artificial heat as possible. Ether, too, lowers the temperature, and for this reason, as well, the above cautions should be rigidly adhered to. There are times now when choosing an anæsthetic we would not be led to select ether. Where there is any renal disease, as evidenced by albumen or casts, ether would be contra indicated, and chloroform, that I aim to discuss later, would be employed. So, also, if there be much bronchial irritation or chronic pulmonary trouble, ether would not be our selection. If, on the contrary, the heart is weak and flabby, ether is indicated and chloroform to be avoided. The advisability of changing from ether to chloroform, or the reverse, during the operation, must be left to the individual judgment of the physician who has charge of its administration.

Chloroform is a later production than its co-partner ether. It was not discovered until 1832, and then almost simultaneously by Soubeiram, in France, Liebig, in Germany, and Samuel Guthrie of Sackett's Harbor, New York, though it is to the latter that a generous profession has awarded the honor of its discovery. Notwithstanding its discovery in 1831 it was not made use of for anæsthetic purposes until Sir James Y. Simpson brought it to the attention of the profession on the 15th of November, 1847, at Edinburgh. Upon its inhalation after a brief period of stimulation, it is depressing in its effects, and in over-doses is a certain poison, acting by the destruction of the contractility of the heart-muscle.

John MacWilliams, of Aberdeen, has demonstrated that even when due admixture of atmospheric air has been allowed in its adminstration there is caused at times an acute dilation of the heart, and that this may even precede the loss of conjunctival reflex, affecting both sides of the heart, and often occurs before any fall of blood-pressure. Artificial respiration in these cases avails us nothing, for the dilated and enfeebled heart is no longer able to maintain the circulation. The dilation is produced, according to MacWilliams, by the direct poisonous effect of chloroform upon the heart-muscle. Up to the time of the report of the first Hyderabad Commission a large majority of clinical observers shared in the belief that chloroform destroyed life mainly through cardiac failure. After repeated experimentation upon the lower animals this Commission decided that the drug killed by its destructive action upon the respiration—a statement that provoked most violent opposition. So violent, indeed, that a second Hyderabad Commission was formed under the auspices of the Nizam's government; this Commission after a thorough re-investigation, arrived at practically the same conclusion, namely, that chloroform always arrested the respiration before the heart.

Hare and Thornton, under the auspices of this same Nizam's government, made a very elaborate report to the effect that chloroform practically always kills by failure of the respiration when administered by inhalation, "provided" (and this they regarded as the most important), "that the heart of the anæsthetized has not been rendered functionally incompetent by fright or violent struggle, or again by marked asphyxia." While they most positively assert that the drug destroys life by primarily causing failure of the respiration, it is also asserted by them with quite as much positiveness that in excessive doses by inhalation chloroform has a depressant effect on the circulation which is chiefly due "to centric vasomotor depresssion with final depression of the cardiac muscle itself."

In the face of so great mass of contradictory experimental evidence, discordant laboratory results avail us, as general practitioners, nothing, and we should cultivate our own good judgment and study carefully each individual case. Chloroform, let me repeat, is unquestionably more dangerous than its co-partner ether, and yet were we able to find out directly the deaths produced secondarily by ether as from pulmonary congestion, œdema and the like, I feel very confident that we would not find such disparity in the statistics.

It is a fact that most of the recorded deaths from chloroform narcosis come from general practitioners, showing to my mind that it is principally to the inexperienced that this untoward result is apt to happen. Let us, then, study some of the methods to avoid this.

In the first place, its administration should not be left to the careless and inexperienced, but should be administered by the one who has had most experience with it and who will be wholly absorbed in its administration. Secondly, before the beginning of its administration we have certain agents that are useful. Of all the circulatory and respiratory stimulants atropia ranks first. It diminishes the secretions of the mouth, throat and bronchial mucous membranes, and likewise the skin, and, according to Hare, allows the administration of more chloroform without depression. It is combined with morphine, so Wood states, as "a useful corrigent to the disturbing and irritating action of the latter upon the pneumogastric." All of these effects are desirable in the preparation of chloroform and ether anæsthesia as well.

In small doses morphine is a cardiac stimulant and aids largely in diminishing and preventing vomiting after ether. A happy combination, therefore, before anæsthesia is ¼ gr. morphia and $\frac{1}{150}$ gr. of atropia—they both lessen vomiting. Since both chloroform and ether lower temperature, external heat, such as water-bags, hot irons, etc., should be applied. The temperature of the room and its humidity should be taken into account. When high and dry, volatilization is more rapid and it is more diffusible, and anæsthesia and recovery thereform more rapid.

Richardson claims that "fatal results follow upon the sudden impact of chloroform (an irritant vapor) upon the nervous periphery of the breathing surface." This fact points directly to the danger of rapid chloroformization. Richardson's formula, a most excellent one, is as follows: "Never induce slow narcosis through every stage, but, having carefully felt the way in the first minute or two, push quickly into the third stage, in which, if the body be not surcharged with chloroform, the danger is comparatively small." During the administration of all these subtle vapors we should ever be on our guard. We, as men endowed with reason, must not follow blindly the result of laboratory experiments upon parish dogs when they collide with practical experience or physiological common sense. The respiration should have all the consideration that is its due, but it would be the folly of follies, to use the words of Mr. Daily, the London anæsthetist, "to neglect the pulse, the pupil, and color of the complexion."

The respiratory and cardiac centres are vital centres, and when the chloroform is pushed to the extent of interference with either the pulse or respiration, we are already confronted with one of the signs of dangerous overdosing. Again, both the pulse and the respiration can be affected not alone by the anæsthetic, but by the reflex inhibition, which is oftener the precursor of vomiting, and especially is the pulse irregular and depressed during vomiting. Of all the indications the pupil is the most important. The third nerve centre which governs it is not a vital centre like the respiratory and circulatory, and its narcosis is not in itself followed by dangerous symptoms. In all anæsthesias there are three changes that the pupil undergoes. At first dilated and active, then contracted, and finally dilated and fixed. The dilated and active pupil indicates that narcosis is incomplete, the contracted pupil is an indication of complete and safe narcosis, while the dilated and fixed pupil is the herald that comes to forewarn us that unless we desist and are less persistent the respiratory and cardiac centres are in danger of narcosis. The only safe pupil, then, is the contracted one. The pupillary changes are explained as follows: In the first stage the pupil is dilated because all the impulses received by the half-narcotized cerebrum cause a reflex inhibition of the third nerve centre, and active because the centre itself has not been anæsthized. In the second stage the pupil is contracted because the cerebrum is completely anæsthized, and all cerebral reflexes being cut off, the third nerve centre is unimpaired in its action. Further, the pupil is dilated and fixed because the centre itself has been reached and narcotized. This is indication of great danger, for respiratory and cardiac narcosis are imminent.

What I have said in regard to overcoming the dangers of chloroform is equally applicable to ether. Should we, in the production of anæsthesia, be confronted with dangerous toxic symptoms, what are we to do? Always we should have prepared a hypodermic of strychnine and digitalis, and this should be immediately inserted into the deltoid muscle. If there is present much cynosis, a pearl of nitrite of amyl should be broken in a handkerchief and applied to the nostril. The table should be inverted into an inclined plane, with the declination at the head. Posture in these cases, according to Hare, is all-important. I had the pleasure of being present to hear Dr. Hare's lecture at Johns Hopkins, with demonstration on the cadaver, of the method of opening the glottis. The tongue should be pulled outward and upward toward the upper incisors and the neck, instead of being lowered, as in Howard's method, should be elevated, else the tongue will obstruct the glottis, and the head should be extended. The position is best de-

scribed by that one assumes when running. Sylvester's method was found to be by far the one allowing the greatest entrance of air, though the feet should be fixed and the body stretched. In the beginning the first movement should be an expiratory one, so as to rid the lung of that vapor-laden air that would otherwise continue to be absorbed.

Electricity, that has been so vaunted and highly lauded as an aid in restoration after imminent narcosis, is not so extensively used as formerly. According to Wood, if applied on the left side, there is great danger of electrolyzation of the pneumogastric, and thus inhibition of cardiac motility, and sometimes, when applied on the right side, there is danger of an overflow of current and with some inhibitory action resulting. The pouring of ether over the bared abdomen, intermittent pressure over the diaphragm and the grasping of the heart through the relaxed chest wall and its intermittent compression are all in use to-day and have their advocates.

Methylene bichloride was first made known to the profession in 1867 by Dr. W. B. Richardson and since pronounced by Mr. Spencer Wells to be the safest anæsthetic. In more than a thousand cases with him it proved free from danger and without unpleasant symptoms. With nine fatal cases, however, recorded against it, it is to-day almost a thing of the past. Several years ago ethyl bromide came into very general use and at one time bade fair to supersede both chloroform and ether. Several lethel exits sufficed to drive it from the anæsthetic stage. Within the past year Dr. W. S. Magill, of Chicago, has again brought it to the attention of the profession and lauds it highly in inducing the first stage of anæsthesia and following it up with chloroform. In all sixteen fatal cases are on record against it. Its advantages, according to Magill, are —the rapidity, the elimination of the disagreeable phases of chloroform or ether which precede or retard recovery from these reagents and the diminished quantity of the toxic agent required— all these elements of superiority combine to invite the notice and experimentation of surgeons.

Of the new anæsthetics, the most recent that has been brought to the attention of the profession is pental, by Dr. P. F. Feoddroff. It is not irritating to the mucous membrane, and its duration is from one to two minutes, though once induced it may be prolonged from two to five minutes. In very many cases the radial pulse is not affected, though especially at the beginning should we be circumspect and cautious in its administration.

Analgesia is induced while consciousness is still retained, though, as with the other anæsthetics, prudence demands that we await complete anæsthesia. In ten or fifteen minutes after it first administration it may be used again with perfect safety.

In short, pental is well adapted to operations of short duration. None of these agents have gained a foothold on the American people.

Guides Needed.

Neither child nor adult can be loosed with impunity in the wilderness of books. If ever guides were wanted, it is here. By the blessing of circumstance, each of us can receive but a portion from the vast production of literature. Should not the portion of the little child have the oversight, the tender care, the loving guardianship, of the wisest among us?

From his first fictions spring those affections and desires known as his literary taste. It was Bacon who said, "That which we call education is in effect but an early custom. Since custom is the principal magistrate of man's life, let men endeavor to obtain good customs. The tone is more pliant to all expressions and sounds, the joints are more supple to all feats of activity and motions in youth than afterwards, for it is true that late learners cannot so well take the ply."—*Lippincott's.*

A new Laboratory Opened.

The research laboratory just opened in Paris seems to mark a new stage in scientific progress. For a nominamonthly sum paid to the municipal council, any person may use the laboratory and will be provided with materials for his experiments.— *Concord Monitor.*

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PHILADELPHIA, SATURDAY, FEBRUARY 8, 1896.

EDITORIAL.

THE DOCTOR AS A SUBJECT FOR PREYERS.

Our attention has lately been called to the liability of the physician to be robbed, assaulted or subjected to the annoyance of petty thefts, by an experience of two colleagues, perhaps with the same crook.

A stranger called upon Dr. A., during his evening office-hour and requested him to come to No. —— ——— St., to attend his wife in confinement. As Dr. A. hesitated to reply to this summons from an entire stranger, the latter gave his business address with a prominent bakery, and made a payment of two dollars as evidence of good faith. Immediately after the office-hour the call was made, but there was no one of the name given, nor a patient of any kind at the address. Within a day or two inquiry was made at the bakery, but no such man was employed there. Some days afterward, Dr. A., who had thus far congratulated himself on being, at any rate, two dollars ahead, found that some medical appurtenances of an aggregate value of several dollars were missing from his office.

In the second instance, Dr. B., a specialist, was called to the door by a man who wished him to attend his wife in labor. The doctor at first demurred, as such cases were out of his province. The stranger, however, pressed the matter, stating that he had engaged a

well-known physician who was temporarily out of town, that he was on his way to call his wife's mother and that the lateness of the hour—it was about half-past ten or eleven—might cause delay in getting another physician. He gave a name and address in full, told his business, that of night electrician at a first-class hotel, and promised payment on Dr. B.'s arrival. Dr. B., therefore, went, rather reluctantly, but found that the number corresponded to a vacant lot. Inquiry also revealed the fact that no one of the stranger's name was employed at the hotel in any capacity. In this instance, no opportunity was afforded for theft; in fact, the stranger apparently did not care to enter the waiting-room, but seemed in haste to leave. Dr. B., was, at first, inclined to consider himself the victim of a practical joke. But the joke perpetrator is usually an acquaintance and almost invariably takes pains to make the fact of a "sell" extremely obvious. Moreover, an acquaintance, even acting through a third party, would probably have named a case to which Dr. B. would have been likely to respond. It seems rather probable that there was a plot to entice a physician along a dark street and relieve him of his watch and ready cash, but that a slight delay on Dr. B.'s part, or the fact that he went on a bicycle, or some other circumstance, interfered with its execution.

While the average physician is a man of small means, it should be remembered that the laity do not usually appreciate this fact. He is also an easy prey for the burglar, sneak-thief or foot-pad. Except, perhaps, a priest or minister—and all but the most hardened criminals have some respect for the clergy—there is no one so easily lured at night to unfrequented spots as is the doctor. It would take a most elaborate conspiracy to get a lawyer or a business man away from his home at night to a dangerous or suspicious part of the city. In the physician's case, all that is necessary is to leave an address and a request for an immediate call, and, in some instances, an assurance of payment, to have the victim on hand at any convenient place and time. If this statement is not applicable to all physicians, it certainly is to the majority. The foot-pad, then, has to deal with a man off his guard, with several dollars' worth of jewelry, pocket instruments, etc., almost always a good watch and a moderate amount of cash. The risk of detection, except from the sale of property, is slight, as there are usually no witnesses to an assault. If the physician has a driver, it will probably be at least an hour before the latter would become alarmed. If the physician is unattended, it will be several hours before an organized search will be instituted, and, often, his family have not the slightest clue as to his whereabouts.

We would, therefore, urge upon physicians the propriety of leaving, in all instances, the name and address to which they are summoned, and an estimate of their probable time of absence. It is well, also, to form the habit of carrying very little currency, and to be known as using checks for all but the retail business of life. We may also profit by the reporter's custom, of keeping to the outside of the walk and avoiding dark halls and alleys.

The depredations of the sneak-thief are an inconvenience rather than a danger of serious loss. Quite a number of crooks, women as well as men, seem to make it a business to haunt physicians' offices and similar semi-public places, seeking admittance at times when they will probably be left alone, for the chance of picking up little articles that will not be immediately missed, that can be readily sold, and

whose small value will reduce the penalty of detection to the minimum. A few instructions as to admitting and watching strangers, especially out of office-hours, and the precaution of keeping the doors into the waiting-room closed, in order to conceal the contents of other rooms, will do away with most of this inconvenience.

It is probable that some persons enter physicians' houses on various pretexts, not for immediate plunder, but with a view to future burglary. In one or two short calls, a burglar or his accomplice can form a good idea of the general plan of a house, including the arrangement and fastenings of doors and windows, and the occupancy and uses of most of the rooms on the first floor, and can also make a rough estimate of the value of the contents and the care with which they are guarded.

It is by no means an affectation for a comparatively poor man to fear burglary. The wealthier a man is, the less is the relative value of his easily converted possessions and the more apt is he to pay by checks, so that he may actually carry less cash on hand than his much poorer neighbor. The man who makes a living by crime does a cash business by preference. Fifty dollars of money in a bureau drawer or trouser's pocket, or a small assortment of silver in a basket, is better game than five hundred dollars in a safe, with several men servants within call, or than expensive plate which is easily identified and which must be melted into bullion at an immediate loss of fifty per cent. or more, before it is of any value to the robber. We believe that the statistics of burglaries will show that the great majority of houses entered belong to men of moderate means, houses of simple plan, with few attendants, and with no safeguards against invasion. We believe that the same statistics will also show that a large proportion of attempted burglaries of rich men's homes have been failures.

We urge the physician to guard carefully his belongings, and, more especially, to put in safe keeping those articles whose exposure jeopardizes the life of himself or of his family; and to remember that a plea for medical aid may be the lure of a highway robber.

VIEWS AND INTERVIEWS.

In one respect, surely, is Philadelphia unique as a medical center. In this country every local professional body which aspires to progress, seeks to secure and retain the attention of the medical world, and to impress its work upon the times by the modern agency of the printing-press. To this end, such a body constantly maintains one or more recognized representatives in medical journalism. The most cursory examination of periodical literature will bear out this statement. Philadelphia alone, seems to lack appreciation of the value accruing to local interests through periodicals recognized as representative. There are many and influential journals published here, but among them all there is not one conceded representative of the general profes sional interests of the city.* There are organs of one or another particular institution. These are excellent journals, but they are not intended to promote directly interests common to all, and it may be questioned whether, in the absence of journals representing the entire profession, such publications do not have a tendency to depreciate the common weal, because of an apparently undue exaggeration of one interest to the subordination, and possibly even the derogation, of others equally important. Some periodicals there are, of great reputation and wide influence, which, from their very character, may not be restricted to any locality; and others yet, are otherwise pre-

cluded representing the diverse interests of general medicine.

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For many years the local profession has failed to use the journals which could easily, and most creditably serve it as recognized organs. They did represent medical Philadelphia at the time the city was the most important professional center in America. Moreover, it was by these very journals, more than any other agency that Philadelphia attained its great supremacy. That they do not now attempt to represent the local profession peculiarly, is the result of conditions, the development of which is immaterial to this discussion, but the continued existence of which is most unfortunate and altogether inexcusable.

At present, an investigator cannot depend upon finding any recent or accurate account of the work of that great body of professional men, which tradition says existed in Philadelphia, and which, as a matter of fact, still exists here. The only authentic accounts of the work of the most important scientific bodies, with, perhaps, one or two exceptions, are to be found in the "transactions" annually published by each society. These may appear only after a lapse of from three to fifteen months since the actual presentation of the work.

* * *

Happily, this somnolent indifference which obtains in the local profession as a body, and which in allied mercantile interests amounts to inhibited cerebration; this unreasonable and unreasoning conservatism; this witless inertia, merely, forsooth, to preserve some ancient customs, is not at all characteristic of Philadelphia practitioners as individuals. Current medical literature contains valuable contributions by physicians who live and practice in this city, but the credit reflected upon Philadelphia is incidental to the residence of the writers. These contributions are so widely scattered through so many periodicals that, to the mind of the profession-at-large, the connection between the excellent work of the individual and the unknown work of his local associations is too remote to be considered representative. The work itself may be none the less valuable on this account, but the loss of prestige to medical Philadelphia is in the aggregate enormous. To be sure, a goodly proportion of these contributions appear in Philadelphia journals. In which event the journals simply present work which they do not represent. At first sight this statement will seem paradoxical, but the contradiction will disappear before the true conception of what is a representative journal.

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Illustrations which will, at once, "point the moral and adorn the tale," can be found anywhere and at any time. For instance, observe any of the New York medical weeklies. If there be such possibilities in American medical literature as journals of cosmopolitan character, the New York weeklies may claim that distinction. No matter what other interests may, now and again, find expression in them, the New York journals, always, unremittingly and consistently, promote the interests peculiar to the New York profession. The doings of the medical world, the proceedings of international, national or state associations, the achievements of individuals, all are given ample mention as occasion may arise, but, constantly and continuously, are the local societies and the work of local practitioners kept in evidence. The result is that the New York profession is fully informed of what is going on in its own home and its interest is sustained and enhanced. More than that, the great body of the profession outside of the city, is kept deeply impressed with the superior importance of the local work, and, naturally, turns to New York when seeking information or an opportunity for special study. By the very association of ideas, unconscious perhaps, all the work presented in the New York journals is thought of in connection with that city, and whatever of extraneous interest may appear in those journals, if thought of at all, is likely to be regarded as subsidiary to the excellence of the great medical center.

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In this connection is found a condition so anomalous in the constitution of a medical center, that the incongruity cannot fail to fix the attention of the entire profession. The *Medical News* was born, reared, and attained maturity in Philadelphia. The peer of any journal of its class, it reflected great credit upon the place of its habitation, and was in all respects a publication the entire profession could take pride in. This journal not only did not, but could not represent medical Philadelphia, owing to the monumental "conservatism"

maintained by the organizations which control the policy of the local profession. Its association with Philadelphia became, ultimately, a question merely of geography. The *News* is very popular and has an extensive circulation throughout this vicinity. When it migrated to New York it readily adapted itself to the altered surroundings, and with scarcely a change in its general makeup, it promptly availed itself of the opportunities free to all journals and identified itself with the common interests. It had not represented the profession of Philadelphia. Since the first issue from its new home, it has exerted itself to represent New York. Hence it comes that there are more Philadelphia practitioners familiar with the work of the New York profession, than there are who have any knowledge of what is going on among their own confreres. Any account of the proceedings of home societies which may appear in home journals is either accidental or incidental. Indeed such reports as may escape durance, the Philadelphia physician is rather the more likely to find in some distant provincial periodical, than he is to see it in the pages of a home journal. This not because the home journals refuse to publish the proceedings; simply because under the present *regimé*, they cannot regularly secure them for publication.

And this in the greatest of American medical centers.

* * *

There is, *mirabile dictu*, **yet another** and equally curious manifestation of local eccentricity. Singularly enough, the number of New York practitioners presumably familiar with the proceedings of the Philadelphia Obstetrical Society, far exceeds the number of the Philadelphia profession who have any information concerning this, their own association. In this instance it would look as though the society had parted with its birthright for a mess of pottage. The Philadelphia Obstetrical Society, to obtain, at the end of the year, bound copies of its "transactions," contracted with a New York journal devoted to the specialty, giving it, for a period of years, the exclusive right to publish the official proceedings of the Society. *The American Gynæcological and Obstetrical Journal* has no superior in its class, and it has kept its contract to the letter. But the colossal unwisdom must be evident of an organization of the rank of the Philadelphia Obstetrical Society allowing its valuable work to be monopolized by any one periodical, no matter how high its character; by a journal which appeals to specialists and not to general practitioners; by one, the bulk of whose circulation is in territory tributary to a wide-awake competitor for medical supremacy, with a relatively insignificant circulation through the regions naturally tributary to Philadelphia; and finally, by a journal which skillfully provides against any attempt at independent enlargement without its express permission, by formally copyrighting the official transactions. The supernatural folly of such a policy is manifest, and must demonstrate either utter indifference to home interests, or else miraculous recklessness n discounting the future; or, possibly, the plentiful lack of common-sense in self-asserted leaders.

* * *

There are indications that medical Philadelphia is beginning to feel "the vacancy within its midst," and there is hope that its representative bodies may be aroused sufficiently to remedy the deficiency. There is no doubt that if the older guilds persist in plowing the medical field with crooked sticks, they will be summarily relegated to the museums of antiquities, where rest the moss-grown relics they were wont to venerate; and that a new order of things will be established by those who live and work in the present generation and who are too impatient to pretend that cob-webs have the strength of iron fetters. The change is bound to come sooner or later—much the sooner if the powers that be will cast aside all old and lifeless forms, and will inaugurate a modern era. The chiefest engine of modern civilization is the printing-press. In the dawn of the twentieth century no aspirant for supremacy in any field may hope for preferment without the indispensable support of a distinctively representative press.

* * *

Perhaps the most significant evidence of this speedy awakening is the still hunt of a prominent publishing house of this city. This house believes that the times are ripe for such a venture, and has been approaching prominent professional men to discover whether, in event of such an undertaking, these practitioners would actively support a new periodical. The plan contemplates the united sup-

port of representative societies, the journal to be the official organ of them all. The REPORTER regrets that the scheme had not been more fully elaborated, for the incomplete prospectus developed another of the causes operating to produce the general indifference of the profession to its representative organizations. Of this more anon.

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

[*December 17, 1895.*]

DR. S. L. MCCURDY read an essay on

HIP-JOINT DISEASE AND ITS MODERN TREATMENT.

[See page 170.]

DISCUSSION.

DR. J. W. MACFARLANE: I differ with the reader of the paper in one particular point, and that is his proposition that all cases of hip-joint disease are of tubercular origin. Men like Sayre hold the cause of this disease to be primarily an injury, and that the most active child, by reason of its greater recklessness, is more apt to receive an injury than the one who hangs on his mother's apron-strings. We have all seen men in advanced life, of perfect physical organization but for the peculiar hip and shortening of limb.

In so far as the treatment is concerned, the doctor did not mention one thing in his paper which I think is of the utmost importance, and that is the manner of the extension when the patient is in bed. It should always be made in the line of the deformity. Unless this is done at the outset more harm than good will result from the extension. It is only by making the extension in the line of the deformity that we can hope to bring the limb down to a correct position.

DR. ERWIN FISCHER: The treatment of the abscess by the injection of iodoform-glycerin, as far as I can see, has certainly been used with very satisfactory results. What I want to add is, that it is most advisable to apply it, not in suppurative cases only, but as soon as the diagnosis of tubercular hip-joint disease has been made. Dr. Schlange, at that time of Bergman's clinic, informed me four years ago that resections of the joint have been reduced from an almost daily occurrence to a comparatively rare interference, since the extensive application of said important aid of conservative method, which has been introduced into practice, especially by Professor Bruns' merit. From my own experience allow me to point out the case of a young lady, who, having first been subjected to the treatment about three years ago, lately enjoyed a whole night's dancing. I decidedly consider it advisable to commence the injection of iodoform emulsion very early. I use a 10 to 20 per cent. mixture, giving from ten to twenty cc. every few weeks. Of course, the other experiments must not be omitted, according to the individuality of each case. In combination with extension, immobilization, etc., the iodoform, applied in as early a stage as possible, will hasten the good results following the conservative method, the application of which seems to me, here as well as in Germany, at present to deserve the first place among curative measures.

DR. G. M. KELLY: I agree with the author in his theory of the tubercular origin of the majority of cases of hip-joint disease. He cited Dr. Gibney as having but one case in 265 which was not of tubercular origin. At the present time I know that the doctor referred to has had 593 cases, and yet there is still but one case in which the disease could not be referred to a tubercular origin. Of these cases, in nearly 70 per cent. he was able to trace the tubercular infection to both parents; and the majority of the remaining 30 per cent. were cases of acquired diathesis.

So far as the treatment is concerned, I favor the long splint. The apparatus shown here by the reader of the paper is a very good one, but I think the extension can be accomplished with the regular long Thomas splint without any special adjustment, and produce the same general effect and results. I do not think there is a splint which will give you the fixation which is counted upon, and which is to be obtained by the bed. I think the best method of fixation is to place the patient on a pipe bed over which canvas has been stretched, thereby making a bed-frame which is portable. In this manner you can obtain absolute fixation. Of course, when it is desirable to have the patient move about, some of the splints mentioned will answer tolerably well, but the fixation will not be perfect. The soft parts around the buttocks being so thick will allow of quite a little motion.

Experiments made by Dr. Lovett, of Boston, proved that a long traction splint on a healthy subject allowed the hip to move in an arc of from thirty to forty degrees. This was accomplished by attaching a pencil at right angles to the shaft of the splint and allowing it to mark on the skin. If this is true in a healthy joint, it must follow it is the same in a diseased joint.

DR. FRANK LE MOYNE: I do not think too much emphasis can be placed on the importance of early recognition of this disease. Of course there are many good appliances which may be used with advantage in the treatment of hip-joint disease, but no apparatus which admits of free physical exercise of the part affected can be properly applied to a joint that is in a state of active inflammation. I believe that one great advance in the modern treatment of hip-joint disease, is our increased knowledge of the early symptoms. If the disease is recognized early, the chances for checking it are greatly increased.

DR. W. H. DALY: I do not think that it has been proven that the majority of cases of hip-joint disease are tuberculous in their incipiency. In former years when engaged largely and actively in a more general practice, I had more or less of these cases under my care, all the while, and the great majority of them were in robust, strong, healthy, active children; children who played hard, jumping over fences, dropping from heights, and the like. And in thinking back over my list of cases, although they did not always result in permanent deformity, I do not find much cause for self-congratulation in actual results; that is to say, in cures with entire absence of deformity. From my own experience and observation, I am led to believe more and more that the cardinal points in the proper method of treatment are extension and fixation, especially in the earlier stages. Should an abscess form, the same rule should be carried out, as in the case of abscess under any other circumstances. Pus in any location should be evacuated and the cavity kept as aseptic as possible.

In the discussion of these cases I am reminded of a former celebrated surgeon of this city, Dr. Walters, deceased, who was very successful in the treatment of this disease. His methods were extension and fixation. He never hesitated, however, to evacuate an abscess, nor to excise a hip-joint if it appeared to him necessary, and the consent of the parents could be obtained.

We are all familiar with the statistics of this disease, and we know that the general tendency is to a deformity of a greater or lesser extent, but it has not been proved to my satisfaction that the majority of these cases are tuberculous in their incipiency. It is my opinion they tend all, more or less, to become so from prolonged and restricted confinement, suffering and suppuration of the diseased joint, but are not necessarily originally so.

Thomas, of Liverpool, Bauer, Sayre, and Walter, were all men who were leading hip-joint surgeons in their day, and did much to mould thought on this subject. Further and more modern appliances were devised by Roberts, deceased, and Dr. Schaffer, of New York. After all, as I have said, fixation and extension are the main indications. But when there is destruction of tissue and bone about the joint, there is no appliance that will prevent deformity, and a gait that is forever after somewhat halting upon close observation. There is yet room for improvement in hip-joint disease appliances that will be within reach of the poor in point of cost.

DR. J. D. THOMAS: The question of opening an abscess has been raised, and it has been raised elsewhere. Those who are not in favor of opening an abscess, have very good grounds for their objections. If the abscess is one that tends to disappear spontaneously, there is nothing to be lost by not opening it; but if it is very active, it should be opened immediately. I have seen some cases of rather large abscess about the hip-joint, where the patient did not seem to suffer, where there was no elevation of temperature, where I did not open the abscess, which in time disappeared entirely. I am sure if these abscesses had been opened, the liability to infection by the streptococci and the staphylococci would have been very great. Of course, if any abscess appears to be septic, it should be opened at once.

DR. J. H. HOFFMAN: I would like to ask the reader of the paper a question in regard to the danger or liability of a relapse. I had a case last summer which was of great interest to me. The patient was a boy of ten years, who had been suffering from typhoid fever, but who appeared to be convalescing nicely, when his temperature rose to 103° and upon examination an abscess under the shoulder blade was found. I called in another physician, who assisted me in opening this abscess and inserting a drainage tube. We observed at this time that there was some inflammatory trouble about the left hip-joint. Next day I left to attend the meeting of the American Medical Association, leaving the patient in charge of the consulting physician, who, during my absence, opened a large abscess about the left hip-joint, and one about the knee, which did not involve the joint. On my return it was observed that the left hip-joint was dislocated, the head of the femur having slipped out of and above the acetabulum. There was also an inflammatory condition about the right hip-joint which eventuated in abscess, which appeared to be peri-articular. I reduced the dislocation and put on extension. I also applied traction to the other leg and opened that abscess. The temperature came down at once; I kept him in bed about two months, when I allowed the parents to carry him out into the garden. He made a rapid recovery and is now running around and going to school. I mention this particular case because there was complete dislocation, followed by recovery with apparently a perfect joint.

The parents of this boy have questioned me

regarding the liability of a relapse, and this inquiry prompted my question to the reader of the paper.

DR. J. M. THORNE: I have had the opportunity of following two cases of hip-joint disease, and perhaps the histories will be interesting. One case was that of a lad about eleven or twelve years of age who was under the care of Dr. C. B. King about eight years ago. An operation was performed, when it was found that the head of the femur had broken down and that the acetabulum was so carious that in curetting the instrument entered the pelvic cavity. The operation certainly became a very formidable one before it was finished. This patient finally made a good recovery and became able to earn a livelihood as an itinerant sign-painter, traveling over the country. About a year ago I saw him again, when he was suffering from pulmonary tuberculosis. He died soon after this, being sick only about six months.

The other case was an operation performed by Dr. J. B. Murdoch. The patient was a child whom I saw running around every day. The operation was performed several weeks after the first symptoms appeared. A carious spot was found on the head of the femur. The head of the bone was removed by what was a new operation to me. Dr. Murdoch had just returned from across the ocean, and he performed the operation according to a method which he had observed while in Europe. He took out the head of the bone through an incision on the front of the thigh. The wound healed almost primarily, and the girl recovered with very little shortening, and is, at the present time, able to walk without crutches. She uses crutches, however, in the street; but in moments of excitement I have seen her take up the crutches and run as fast as the rest of the children.

In the first case of which I spoke there was a late operation with a resultant shortening of about six inches. The leg did not seem to keep up in growth with the other one.

In the second case there was an early operation and very little shortening.

The question of when to operate is one of a great deal of difficulty, and of great importance. I have had a couple of cases during the past year and have tried to decide whether it was advisable to operate, and if so, when? I could not bring myself to see the absolute necessity for an operation at the time, and both are now doing well on splints. I use the Sayre splint, after the extension in bed, until the painful symptoms disappear.

DR. G. B. SWEENEY: I wish to speak of a case which we treated in the South Side Hospital some six months ago, as bearing upon this subject under discussion this evening. The patient was a man with a tubercular elbow-joint. In the operation all the extremities of the bones involved were removed. I did not see the case when it first came into the hospital, but at the time Dr. Thomas and myself came on duty the wound was doing well and gradually closing up. The previous history of the case pointed very clearly to tubercular disease. Not only did the man have every characteristic symptom of tubercular disease in the joint, but he had a violent cough, a diarrhœa, and all the other symptoms, emaciation, etc., of a general phthisis. At the time we came on duty the man was improving. Of course the wound was rather tardy in healing. It was treated with iodoform and glycerin, and during our term of service it healed up. The man had also been suffering from night sweats. These finally disappeared as the man improved. He was under the general line of creosote treatment. The diarrhœa was checked, and the last time I saw him, some two months ago, he was actually in an excellent condition. Four months ago I did not think he could live over ten days or two weeks. I think he owes his life to the resection of the tubercular joint. This joint was the focus of the disease which was continually propagating the tubercular bacilli, and when the focus was removed the vital powers of the man were sufficient to combat the tubercular poison in the general system and insure recovery. In the light of this case it seems to me, if I were to offer any criticism upon the article read this evening, I should say that it was inclined to be a little too conservative in the matter of surgical interference.

DR. W. S. HUSELTON: I use Buck's extension apparatus, extending the adhesive strips well up the thigh to guard against tension in stretching the knee-joint, with the pulley over the elevated foot of the bed, using at first, at least, a very light weight, not over one and one-half or two pounds, and increasing only as the necessity of the case demands it. It is rarely necessary to use more than two pounds. I do not think much of the fixation process, but allow my patients to roll around upon the bed. It is astonishing how soon the child adapts himself to the circumstances and contentedly remains in bed. I do not use any local treatment, and the constitutional medication consists of cod liver oil, or some of the iron tonic preparations in case they are indicated. This simple method has yielded me very excellent results with the least trouble to the patient, attendants, and myself.

DR. J. B. CROMBIE: I merely wish to say I do not believe the case mentioned by Dr. Hoffman was a case of hip-joint disease of the character discussed to-night; but a case of spontaneous luxation of the hip due to typhoid fever. The abscess in the neighborhood of, or within the joint, was probably of the same nature as that at the angle of the scapula, and that near the knee, and pyæmic, or due to the bacillus of typhoid fever, rather than that of tuberculosis.

Dr. MCCURDY, in concluding the discussion, said: It must be understood that in the handling of a subject such as hip-joint disease every little detail could not be considered in a paper which occupied only twenty minutes in

reading. I have endeavored to present the leading features of the disease, and the concensus of opinion of the leading members of the American Orthopædic Association regarding theory of origin and best methods of treatment. At the present time, I do not believe there is a member of that association who does not believe in the tubercular origin of hip-joint disease, and, in fact, all other diseases in bone which run a similar course. It may be said that Sayre in his book, states as his opinion that these cases are not of tubercular origin, but that book is a back number, and the younger Sayre does not take that stand to-day. Bradford and Lovett, and the other authorities, are of the opinion that the disease is of tubercular origin, and have demonstrated the truth of this theory by innumerable experiments. The case reported by Dr. Hoffman is one of the cases of multiple tubercular disease which we occasionally meet. I might parallel it with a case of appendicitis, associated with hip-joint disease. So far as I could get the history of the case, and from the post mortem, we demonstrated a secondary disease of the hip-joint, but whether the appendix was tubercular or not is a question for the man who amputated the appendix to decide. That it was a tubercular hip-joint goes without saying—not that I made a culture, but the fact was established from other evidence.

As to the amount of traction required, or extension, which is the same thing, this can be determined only in individual cases by the surgeon who is in attendance. It is a question of muscular development, and the amount of pain to be relieved. This can only be determined by the actual application of traction. It can be determined in no other way.

A very interesting paper was published in the *New York Medical Journal* about six months ago from the pen of Dr. Lovett, which contained the results of a number of experiments, and observations conducted at the Children's Hospital in Boston.

The advisability of operating in hip-joint disease has been discussed. I might say in this connection, that the mechanical surgeon never interferes, while the general surgeon goes upon the principle that a tubercular focus must be removed wherever found. If it is in the appendix they remove it; if it is in a joint they excise. The orthopædic surgeon of to-day occupies a kind of middle ground between these two extremes. He does not hesitate to operate when the abscess is growing rapidly; where it is producing a great deal of pain; where it is pressing upon important structures, or where life itself is in danger. But, as a rule, where the abscess is running a harmless course, I think it is bad policy to open it and subject the patient to possible pyogenic infection and induce a grave secondary disease, unless, perhaps, the patient is in a hospital where the abscess can have the best of asceptic treatment.

A CASE OF INDUCED PREMATURE LABOR.

DR. E. FISCHER.

My report concerns a case of premature labor induced by a not quite ordinary indication. The lady, now thirty-three years old, married a little over two years, was operated on by me, with Dr. Stewart's kind assistance, in July, 1894, by Graske's method, with partial removal of the left os sacrum up to the third hole, on account of an intraperitoneal cancer of the rectum, which had already perforated the wall. Last February we resected another piece of the bowel, on account of two glands being cancerously infected. Since that time there has been no further relapse. The last menses occurred in the latter part of January, 1895. From about the fifth month the pregnancy caused considerable cystalgia, with disturbance and annoying frequency of urination and pains in the back, produced, I think, by drawing scars and adhesions. Following the cut in the os sacrum—that is, from about the limit of the wide and narrow part of pelvic cavity—a high, unequal, here and there pointed callus had been formed, reducing the antero-posterior diameter to 8 cm. Otherwise the pelvis made the impression of a slightly equally small one, with a conjugata diagonalis of the brim of 11 cm., the transverse diameters being under the normal in the same proportion. The scar of the soft parts reduced the elasticity of the pelvic floor still more than is usual to the age. As a living, full-grown child would evidently not have been able to pass the canal, artificial help had to be provided. There were two ways: sectio cæsarea at the end of the pregnancy, or artificial premature labor. Both were mentioned to the patient, the latter recommended. The cæsarean section would have better secured the guarantee for the life of the child, and, considering that a secondary operation for cancer had been performed on the mother before, might have seemed to deserve the first regard. Nevertheless, I abstained from it, not for humanity's sake only, but because also on account of the disapproval expressed by the patient and her relatives. My reasons were that during the pregnancy no sign of further relapse had appeared and that the pains caused by the pregnancy increased with the progress of the latter, often depriving the mother of the night's rest, reducing her in flesh, and, together with the permanent fear, creating a pitiful condition of nervousness. I leaned toward premature labor the more, as in Prof. Sæxinger's clinic I had several times seen its good results for mother and child. It was begun on October 20th by vaginal douches applied for three days, to soften the tissues. I considered the pregnancy to be of the 36th to the 37th week, and had decided to wait this long, because, considering the preceding trouble, and the measures taken, I did not anticipate a large child. The head was movable over the brim in first position, and I judged it would be able to pass the narrow part. The

child's measure from head to breech was 23 cm. The portio vaginalis was not yet shortened. In the course of three days the head descended into the brim, the portio became shorter, and the cervix wide enough to permit the introduction of a bougie. This produced only slight pains, and was aided by a second one after twenty-four hours. Within four hours after this, hard continual labor pains were brought on. Unfortunately, the water broke before the os was enlarged. The child passed the brim normally, the narrow part of the cavity with the diameter biparietalis between callus and symphysis, the left os parietale slightly detained backward, the smaller fontanelle deep, following about the mechanism of development in a partially deformed, small pelvis, combining persistence of transverse position with the pronounced descension of the posterior part of the head. The pains in this stage of the parturition, which took about twelve hours, required relief by morphine. The douches had been applied for three days, then the first bougie introduced three, the second one two days, before the child's expulsion.

The measurements of the living and well-formed child were :—

Fronto-occipitalis, 11 sm.; biparietalis, 8 cm.; bitemporalis, 7 cm.; obliquus major, 13 cm.; obliquus minor, 9 cm.; circumference, 31 cm.; length, 47 cm.; weight ca., 2,600 grams.

The childbed was normal. Last Friday, when I last saw the patient, she said she had nursed the baby thus far; the bladder trouble had almost ceased; the mother and child had gained in flesh, and no sign of a growth could be discovered in the rectum.

TRANSPOSITION OF THE VISCERA IN A BOY WITH HARE-LIP AND CLEFT PALATE.

DR. J. J. BUCHANAN.

I exhibit to the society to-night a case of transposition of the viscera in a child who has a hare-lip and a cleft palate. It will be noticed in this boy that the heart-beat is found on the right side of the median line, and percussion indicates that the liver is on the left side. The child was sent to me from West Virginia for the cure of the hare-lip and cleft palate, and the primary operation has been done. The cleft was a single one and ran into the right nostril. The bony septum is attached to the left palate process of the superior maxillary bone and very much deflected to the left side, as will be seen upon examination. The first operation consisted in separating the acutely projecting intermaxillary bone from the left maxilla with a saw and bone forceps, and forcing it over to the freshened edge of the right maxillary bone, and holding it there with a silver wire. At the same time the lip was united by a flap operation. This lip is not in very good shape at present, but it can be made good by a very simple operation. I expect after the holidays, to make an attempt to close the hard and soft palates by sutures. This case is an interesting one from the fact of the extensive anomalies present, and the comparative rarity of the transposition of the viscera.

EXOTHYROPEXIA FOR SUFFOCATIVE GOITRE.

DR. J. J. BUCHANAN.

The next case which I report is one of exothyropexia. "This operation consists in exposing and drawing to the exterior, and retaining there, a part or the whole of a thyroid gland affected by goitre, with the idea of producing atrophy of the hypertrophied tissue." This terse description of the operation I quote from a paper, kindly sent me by its author, M. Jaboulay, of Lyons, France, who, with M. Poncet, also of Lyons, originated and extensively practiced the procedure. Usually, a perpendicular incision is made, exposing the gland. The soft parts, including the perpendicular muscles, are then drawn apart on either side, and the enlarged gland is protruded through the opening, very much as a button is passed through a button-hole, and allowed to remain on the outside, the soft parts being sutured to hold it there if necessary. The exposed gland is covered with iodoform gauze, and thereafter treated as any other open, aseptic wound. The patient on whom I operated was a boy six years of age, and the goitre was of considerable size. I have the measurements, but was unable to get them for this meeting. The gland was about the size of my fist, and was pressing hard on the trachea. The mother stated to me that for a year she had been compelled to remain awake a large portion of the night to see that the child's head remained in the proper position, for, as he turned in his sleep, the danger of suffocation seemed imminent. There was very great dyspnœa, and also a great interference with the vocal function, the speech and cry of the child being very hoarse. The operation was done about two months ago and was a very easy one, certainly somewhat easier than a thyroidectomy, which is often a rather tedious operation, although, in my limited experience, not a difficult one. In this operation practically no blood was lost, for the reason that the incision was made in the median line. The relief experienced by the patient was instantaneous. As soon as the gland was relieved from the pressure of the muscles, it was lifted at once from the trachea and complete ease of breathing was the immediate result. The progress of the case was aseptic, and without event; the temperature never rose above 100°; the patient was out of bed the following day and left the hospital in two weeks. The gland at that time was covered with granulations. I have heard nothing from the child since, but have no doubt that everything is progressing satisfactorily, as

he was able to play out doors after the first week.

I think in many cases that this is a very excellent operation. It certainly is an operation that is almost entirely free from danger, and the removal of the pressure on the trachea affords instant relief. It would seem from the reports of the cases of M. Poncet and M. Jaboulay that the results are uniformly good; that not only is the local trouble removed, but that often the more remote nervous symptoms also are greatly benefited. There are no bad results following the operation which are so likely to result after the extirpation of the gland.

CRANIOTOMY FOR IMBECILITY.

DR. J. J. BUCHANAN.

The third case to which I desire to call your attention is that of an operation for attempted cure of imbecility I might say before reciting the history of the case that the boy was originally under the care of a homœopathic physician, who did not make any satisfactory diagnosis, and that the history as given is from the recollection of the mother, and is assumed to be correct.

W. K., æt. 5 years. Father and mother living and in good health. An older brother epileptic. Child was in good health, bright, intelligent, and could talk well till November, 1893. While at play with his younger brother, aged less than two years, the latter struck him on the top of his head with a coffee strainer. The mother was present and saw the blows, two or three in number. She distinctly remembers that they were delivered on the top of the head, in front of the bregma, and that they were quite severe strokes to be given by a small boy. About a quarter of an hour afterward the boy complained of being sick. The accident occurred about eleven o'clock in the morning, and he played no more that day; refused his meals and was nursed during the afternoon. His eyes became bloodshot and he was inclined to sleep, but would start in his sleep. Toward evening his cheeks became red and his temperature rose. He slept at intervals during the evening and at ten o'clock awoke delirious. The following day his fever had somewhat abated, but he was still at times delirious and at others stupid. He remained in bed; would ask for his brother, but would not turn his head to look for him. On the third day he was more delirious and still feverish. On the morning of the fourth day his condition was evidently becoming more grave, till at noon he had a severe convulsion, which continued, with intervals of relaxation, for one or two hours. At the expiration of this time he became comatose and was believed to be moribund. The convulsions recurred in the evening, and on the following, the fifth day. This was the last convulsion. For two or three days afterward he lay unconscious. He then began to improve, and at the end of the second week he was able to be out of bed. During his convalescence he seemed to have headache. Since his recovery of consciousness on the seventh or eighth day his mental state has been one of imbecility.

Status Præsens.—Physical condition excellent; a large, well-developed boy, with a bright and pleasing countenance. Very restless; constantly wants to be "on the go." Walks with a headlong gait. Distinct paralysis of the cheek muscles on the right side, especially of the elevators of the angle of the mouth. No other motor paralysis. No discoverable anæsthesia. Pupils normal. Has an inarticulate cry, to which he almost constantly gives utterance. Occasionally speaks a few disconnected words without sense. The only words which he has been taught are papa, mamma, drink, piece and cat, and these he will merely repeat without appearing to associate any idea with them. Apparently the only thing he will do when told is to present his cheek for his mother to kiss. His habits as to cleanliness are those of an infant. His head is of normal size and shape, except that there is a slight elevation, almost symmetrical, about 2¼ inches in diameter, in front of the bregma. His parents state that this was not present before the injury. This elevation is distinctly tender to the touch; no such tenderness exists on any other portion of his scalp.

Diagnosis.—Meningeal hemorrhage, possibly followed by meningitis or formation of cyst. Location, over left frontal lobe, extending to lower third of ascending frontal convolution. Exposure of brain to be made over upper face centres and forward into second frontal convolution. The paralysis of a part of the right side of the face corresponds with the fact that lesions of the frontal region, especially on the left side, are quite uniformly attended by mental dullness. Also, "The rapid development of idiocy and epilepsy is more apt to follow meningeal (cortical) lesions," (1) and "in children, the presumption is in favor of cortical or meningeal lesions, (1) and "Cranial deformities are more apt to accompany surface lesions." (1).

This diagnosis was made because it seemed necessary to make a localization, if possible, of the seat of the trouble, and the only localizing symptom seemed to be the paralysis of the levator muscle of the right side of the mouth. The operation was performed with chisels and not with the trephine. The child was chloroformed on the day before the operation; the head was shaved and the fissure of Rolando was marked off as usual, and the outlines of the flap marked with a scalpel, and an antiseptic cap applied. This flap was about two and one-half inches in diameter and omega-shaped. The following day the child was again chloroformed, the flap raised and the bone chiseled through underneath. The bone was lifted with the scalp flap. The dura mater appeared to be normal. A large flap of this membrane was raised, and the dura found to be normal; but

(1.) Sachs.

the pia mater was found to be much thickened, œdematous. Needles were thrust into the brain in different directions to see if a cyst could be found, but nothing abnormal was discovered, save the thickened condition of the pia mater. I might say that, in passing these needles in different directions into the brain, a vessel of considerable size was struck and a hemorrhage ensued. The blood accumulated in the sub-arachnoid space and formed a widespread clot of considerable thickness. The dura mater was sewed up with catgut sutures and the bone replaced. The child stayed in bed two or three days. The temperature never rose above 100, and he left the hospital in six days.

The results from this operation were not very satisfactory, but nevertheless there were some good effects following it. The operation was done on the last day of October—that is, about seven weeks ago—and during this time the mother has been able to train the child to notify her when he wishes to evacuate his bowels. For the two years during which the child had been afflicted in this manner it had been the mother's constant effort to train the child to tell her of this desire, but she was unable to make the slightest impression until after the operation. Now, during his waking hours at least, the child is cleanly in his habits. This one result is worth the operation. She also informs me that the child now speaks words which he never uttered before. Dr. M. Allen Starr, in his recent work, has considered the cases, of which he could obtain record, of imbecility due to a lack of development of the brain. These cases are 343 in number, divided according to the following table :—

		Per cent.
Porencephalus	132	38.5
Sclerotic atrophy	97	28
Atrophy of cortex (minute structures, no gross defect)	32	9
Atrophy from embolism or thrombosis	23	7
Meningo-encephalitis, thickened pia and adherent to brain	21	6
Cysts	14	4.5
Hemorrhage	18	5
Hydrocephalus	5	
Hydrocephalus unilateral	1	
	6	2

Unfortunately, in these cases there is no way of making a positive diagnosis before the operation.

I desire to show the instruments with which this operation was done. The chisels were devised by Dr. J. S. Pyle, of Canton, Ohio, and have been described in the *Medical Record*. These were made to my order, and are exactly like Dr. Pyle's instruments, with one exception, and that is in the length of the chisels. All of his instruments are of the same length. Most of the work is done by the hand with these instruments, which resemble graver's chisels, and it is very evident that the power will be greater if you apply it at shorter range. At least, that is the way it appeared to me, and these instruments are much shorter than Dr. Pyle's.

The instruments described by Dr. Pyle are not original with him, nor does he claim originality. Mr. Arbuthnot Lane described this instrument several months before Dr. Pyle wrote his paper. Whether the instrument is original with Mr. Lane or not, I am unable to state. In opening the skull with these instruments the first groove is made with a mallet and chisel. Then the groove is deepened with the smaller instrument, just as the graver uses a parting tool. After the first groove is made in the skull, the cutting is done with the hand without the aid of a mallet by a side-to-side motion.

DISCUSSION.

DR. S. L. MCCURDY: Referring to the case of congenital deformity, I would say that I recently examined a case of what appeared to be a transposition of viscera, but which further examination proved not to be. In this case, which was a still-birth, in removing a portion of the ribs to examine the pleural and abdominal cavities, we found the appendix lying under the left clavicle, the heart on the right side, and the liver thrown across. It was found on further examination that the diaphragm was entirely absent on the left side, and this allowed the various organs to float around as mechanical impulse was given them.

DR. R. W. STEWART: I would like to ask Dr. Buchanan whether he claims that the thyroid gland will disappear or diminish in size from the formation of granulation tissue which subsequently cicatrizes, or from other causes. I think the former cause the probable one. I remember in an operation for removal of the gall bladder, I found it impossible to replace the lower part of the liver, which was elongated. There was probably about a square inch left outside the abdominal cavity. This exposed portion of the liver was in time covered with granulations which cicatrized and practically disappeared.

I would also like to express my approbation of the method of opening the skull with chisels in preference to using the trephine. The largest trephine makes a comparatively small opening and limits the area which can be examined by the surgeon. By the method spoken of this evening the opening is made in just as easy a manner and with practically no limit as to area. Another great advantage, in addition to the extended area, is the fact that the bone can be replaced in its proper position. This is a method which is growing rapidly in favor with the profession, and, while it may not entirely exclude the use of the trephine, it certainly is rapidly replacing it.

DR. W. H. DALY: I have known very great disappointment on the part of the parents to follow operations for cleft palate, because the patient did not commence to talk plainly and normally at once. I have had a number of cases of this kind, and after the physical defect of the child had been remedied the child still adhered to the old method of pronouncing words. In fact, they had to be taught to speak again, to pronounce words properly, and this proved a very difficult task. In considering these operations too great inducements must

not be held out to the parents. I would also like a little information as to what the doctor expects to be the ultimate outcome of the goitre case, the amount of atrophy, etc., and the age of the patient. In my travels through France and Switzerland last summer I saw a number of cases of goitre in children two and three years of age, in which the gland was considerably enlarged.

DR. J. J. BUCHANAN: The goitre was enucleated from its bed over about three-quarters of its surface, and the muscles clasped it just as my fingers clasp my wrist and nearly as tightly. The two flaps united primarily, and the surface was covered with granulations. The surface of the goitre was covered with veins, which will undoubtedly shrink under the pressure of the granulations. The expectation is that the same result will be obtained as in the case of an ordinary burn—that is, a contracted surface. In fact, it is supposed that the diminution in the size of the goitre is due, to a great extent, to the contraction of the cicatricial skin.

Nearly, if not quite, all the distress in breathing occasioned by many goitres is caused by the pressure of the muscles, which force the gland against the trachea.

When this operation is performed the goitre is placed external to the muscles, and the pressure of the latter can never be renewed.

The author of this method of treatment has a theory in regard to this atrophy. He thinks that the goitre is an excretory gland, that the vessels which carry its product into the surrounding tissues form its excretory duct, that when the operation is performed this excretory duct is cut off, and that the gland, being without a duct, atrophies, just as any other organ atrophies when the means by which its secretion is carried away is taken from it. This, of course, is only a theory; but there is no doubt that this granulating surface will heal over and there will be a considerable amount of pressure exerted on that gland which will tend to lessen its size. The nutrition of the gland being affected, will also have a tendency in the same direction.

The operation was performed about two months ago, but I have not seen the patient since the second week after. At that time the diminution was not great, but the originator of the operation claims that a very considerable reduction will take place within six or seven weeks, and that in time the ultimate diminution will be so great as to fully justify the operation.

A NEW CONE AND HEXAGON-SHAPED PERIMETER.

DR. J. E. WILLETTS.

I desire to make a preliminary report of a new eye instrument devised by me, consisting of a peculiar combination of high-degree prisms in the form of a cone or of a hexagon, of various angles, for the relative use of field-taking, detecting scotomata, and the color sense of the retina; also insufficiency of the ocular muscles and a confusion test in simulated blindness. (The various cones and hexagons were exhibited to the members of the society.)

PERISCOPE.

SURGERY.

Castration in Hypertrophy of the Prostate.

Albarran (*Presse Méd.*, November 6, 1895) analyzes his cases of prostatic hypertrophy with reference to changes in the volume of the gland, and increased contractility of the bladder following castration. Only histological examination can show if real atrophy results. In many cases after operation a rapid shrinking of the prostate is observed to follow in from one and a half to two months. The glandular *cul-de-sacs*, instead of being pressed together, are found separated by large spaces into a series of independent glands. There is a degenerative disintegration of epithelium which before disappearing takes on an embryonic type, but there is no proliferation of muscular or connective tissue; these appear abundant owing to the shrinking of the glandular tissue. Double castration causes atrophy of the normal but not necessarily of the hypertrophied prostate, and evidence on this latter point is wanting. Clinically speaking, an atrophied prostate is one which has ceased to be felt *per rectum*. But congestion accounts for at least one-third of the enlargement, and relief of retention where it exists is usually due to the diminution of this. Diminution of the volume of the gland admits of increased vesical contractility, and thus aids in relieving or curing the retention. The value of operation lies in securing these results. In dysuria without retention, where the vesical and prostatic congestion causes frequent micturition, though castration gives relief, any other measures for the diminution of the cystitis also relieve, and operation is unnecessary. In acute retention also the results obtainable by operation are attainable by catheterization and operation is unnecessary. In incomplete retention the vesical muscular coat is weak and the congestive element less important. The benefits of operation in such cases are probably due to the atrophy of the prostate which allows the bladder to act more easily. In cases of complete chronic retention, where

catherization is badly borne or difficult, operation often results in rapid improvement or, even if there is no marked thickening of the bladder walls, in incomplete cure.

Closure of Arterial Wounds by Suture.

Heidenhain (*Centralbl. für Chir.*, No. 49, 1895) refers to two previously recorded cases of closure by suture of a wounded artery—in one instance the common femoral, in the other the common iliac—and reports a further case under his own care. In this case during the removal of some cancerous glands from the armpit, and after necessary resection of a portion of the axillary vein, a wound about half-an-inch in length was accidentally made in the main artery. The bleeding having been arrested by digital compression, the edges of the arterial wound, which took a longitudinal direction, were brought together by a continuous suture of catgut. The bleeding was thus completely arrested. The lumen of the vessel apparently was not diminished, and during the final stages of the operation the sutures held firmly in spite of strong arterial pulsation. The patient made a good recovery and, when last seen about seven months from the date of operation, was quite free from relapse. There were no signs of disturbed function of the arm, and the axillary artery could be felt pulsating along almost the whole extent of the armpit.

HYGIENE.

Sunday Liquor Selling From a Doctor's Standpoint.

The discussion of the excise question, of local option, and of Sunday liquor selling, which now interests so many, has a medical and scientific side which should not be entirely neglected. It is very proper that those people who are anxious to provide (or deny) opportunities for drinking every day in the week, should, in a measure, consider not only the question of "personal liberty" and the "poor man's rights," but also the question whether the habit of drinking liquor on any day may not be injurious to the body of citizens as a whole. Our readers will remember that not many years ago the question of the danger or the lack of danger from the use of alcoholic drinks was very widely agitated among medical men, and that many learned opinions were given, very largely by eminent English physicians, as to the safety, or otherwise, of the habit of moderate drinking. The conclusions at that time seemed to be, from all the facts and opinions that could be gathered, that a large number of persons could drink temperately for years without really impairing their health or shortening their lives. Since that time a good deal more evidence as to the action of alcohol upon the human body has been collected, not by hysterical prohibitionists, but gathered from the laboratory, the autopsy room, and the bedside. One series of facts, opening up a decidedly new field, has been obtained through the works of the experimental psychologists. Through the efforts of some of these gentlemen, and we may mention particularly work done at the Heidelberg University, it seems to be established that alcohol has an effect in dulling certain mental processes, such, for example, as learning by rote simple arithmetical calculations, and the simpler association of ideas. Another series of facts which tend to show the evident effects of alcohol is that which has been collected by students of heredity, particularly the relation of heredity to degeneration in families. The French alienists, in particular, have shown that one of the most prominent of the factors in leading to the development of mental and physical degeneration is the use of alcohol, and it is further urged by these investigators that alcohol has more than an individual or family effect, that it produces serious deterioration of the human race. Of course, the effects thus claimed are all due to the abuse and excess of alcohol. Whether a further and more careful investigation would show that a moderate use of alcohol leads, eventually, to somewhat similar results, we cannot say. As regards the evidence against alcohol, furnished by clinicians and pathologists, there has really been nothing particularly new added in late years. But if one takes an unbiased survey of the position of medical knowledge and of medical men toward alcohol, and compare it with that held by them fifteen years ago, we feel sure that he will see that the feeling against the use of it is much stronger. This is because there has been a gradual accumulation of facts, carefully ascertained and thoroughly proven, demonstrating the ill effects of the drug.

It is for the reason that the position of medical men regarding the use of alcohol has been always conservative and never fanatical, that the present slight shifting of the front deserves the attention of our lawmakers and of all those citizens who are interested in good government and in the social problems of the day.—*Medical Record.*